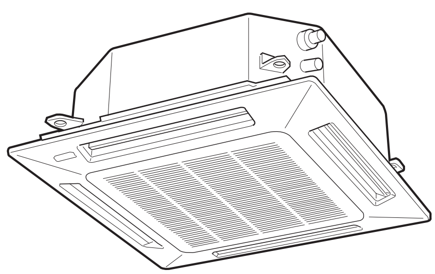
Panasonic

TECHNICAL DATA
&
SERVICE MANUAL

R410A

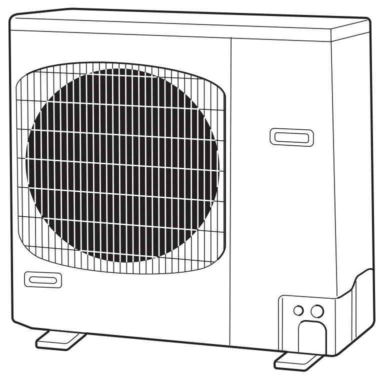
INVERTER

Indoor Unit



Shows S-26PU1U6

Outdoor Unit



Shows U-26PE1U6

Model No.

Outdoor Units					
Type	**Outdoor Units**	**26**	**36**	**42**	**Remarks**
U	Single	U-26PE1U6	U-36PE1U6	U-42PE1U6	Cooling/Heating
		U-26PS1U6	U-36PS1U6	U-42PS1U6	Cooling

Indoor Units					
Type	**Indoor Units Type**	**26**	**36**	**42**	**Remarks**
U1	4-Way Cassette	S-26PU1U6	S-36PU1U6	S-42PU1U6	with Wired Remote Controller: CZ-RTC2
K1	Wall Mounted	S-26PK1U6			with Wireless Remote Controller: CZ-RWSK1U
T1	Ceiling	S-26PT1U6	S-36PT1U6	S-42PT1U6	with Wired Remote Controller: CZ-RTC2
F1	Low Silhouette Duct	S-26PF1U6	S-36PF1U6		with Wired Remote Controller: CZ-RTC2

85464849303001

REFERENCE NO. SM830203-01

IMPORTANT!
Please Read Before Starting

This air conditioning system meets strict safety and operating standards. As the installer or service person, it is an important part of your job to install or service the system so it operates safely and efficiently.

For safe installation and trouble-free operation, you must:

- Carefully read this instruction booklet before beginning.
- Follow each installation or repair step exactly as shown.
- Observe all local, state, and national electrical codes.
- Pay close attention to all warning and caution notices given in this manual.

WARNING This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

CAUTION This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

If Necessary, Get Help

These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

In Case of Improper Installation

The manufacturer shall in no way be responsible for improper installation or maintenance service, including failure to follow the instructions in this document.

SPECIAL PRECAUTIONS

WARNING When Wiring

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause **accidental injury or death.**
- **Ground the unit** following local electrical codes.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.
- To prevent possible hazards from insulation failure, the unit must be grounded.

When Transporting

Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut your fingers.

When Installing…

Select an installation location which is rigid and strong enough to support or hold the unit, and select a location for easy maintenance.

…In a Room

Properly insulate any tubing run inside a room to prevent "sweating" that can cause dripping and water damage to walls and floors.

CAUTION Keep the fire alarm and the air outlet at least 5 feet away from the unit.

…In Moist or Uneven Locations

Use a raised concrete pad or concrete blocks to provide a solid, level foundation for the outdoor unit. This prevents water damage and abnormal vibration.

…In an Area with High Winds

Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.

…In a Snowy Area (for Heat Pump-type Systems)

Install the outdoor unit on a raised platform that is higher than drifting snow. Provide snow vents.

When Connecting Refrigerant Tubing

- Ventilate the room well, in the event that is refrigerant gas leaks during the installation. Be careful not to allow contact of the refrigerant gas with a flame as this will cause the generation of poisonous gas.
- Keep all tubing runs as short as possible.
- Use the flare method for connecting tubing.
- Apply refrigerant lubricant to the matching surfaces of the flare and union tubes before connecting them, then tighten the nut with a torque wrench for a leak-free connection.
- Check carefully for leaks before starting the test run.

WARNING

- When performing piping work do not mix air except for specifled refrigerant (R410A) in refrigeration cycle. It causes capacity down, and risk of explosion and injury due to high tension inside the refrigerant cycle.
- Refrigerant gas leakage may cause fire.
- Do not add or replace refrigerant other than specified type.
  It may cause product damage, burst and injury etc.

- Do not leak refrigerant while piping work for an installation or re-installation, and while repairing refrigeration parts. Handle liquid refrigerant carefully as it may cause frostbite.

When Servicing

- Turn the power OFF at the main power box (mains) before opening the unit to check or repair electrical parts and wiring.
- Keep your fingers and clothing away from any moving parts.
- Clean up the site after you finish, remembering to check that no metal scraps or bits of wiring have been left inside the unit being serviced.

WARNING

- Do not clean inside the indoor and outdoor units by users. Engage authorized dealer or specialist for cleaning.
- In case of malfunction of this appliance, do not repair by yourself. Contact to the sales dealer or service dealer for a repair.

CAUTION

- Do not touch the air inlet or the sharp aluminum fins of the outdoor unit. You may get injured.
- Ventilate any enclosed areas when installing or testing the refrigeration system. Escaped refrigerant gas, on contact with fire or heat, can produce dangerously toxic gas.
- Confirm after installation that no refrigerant gas is leaking. If the gas comes in contact with a burning stove, gas water heater, electric room heater or other heat source, it can cause the generation of poisonous gas.

Others

CAUTION

- Do not touch the air inlet or the sharp aluminum fins of the outdoor unit. You may get injured.
- Do not sit or step on the unit, you may fall down accidentally.
- Do not stick any object into the FAN CASE.
  You may be injured and the unit may be damaged.

NOTICE

- **This device complies with part 15 of the FCC Rules.**
  Operation is subject to the following two conditions:
  (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- **This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.**
  These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.
- FCC Caution: To assure continued compliance, follow the attached installation instructions.
  Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Check of Density Limit

The room in which the air conditioner is to be installed requires a design that in the event of refrigerant gas leaking out, its density will not exceed a set limit.

The refrigerant (R410A), which is used in the air conditioner, is safe, without the toxicity or combustibility of ammonia, and is not restricted by laws imposed to protect the ozone layer. However, since it contains more than air, it poses the risk of suffocation if its density should rise excessively. Suffocation from leakage of refrigerant is almost non-existent. With the recent increase in the number of high density buildings, however, the installation of multi air conditioner systems is on the increase because of the need for effective use of floor space, individual control, energy conservation by curtailing heat and carrying power, etc.
Most importantly, the multi air conditioner system is able to replenish a large amount of refrigerant compared to conventional individual air conditioners. If a single unit of the multi air conditioner system is to be installed in a small room, select a suitable model and installation procedure so that if the refrigerant accidentally leaks out, its density does not reach the limit (and in the event of an emergency, measures can be made before injury can occur).
ASHRAE and the International Mechanical Code of the ICC as well as CSA provide guidance and define safeguards related to the use of refrigerants, all of which define a Refrigerant Concentration Level (RCL) of 25 pounds per 1,000 cubic feet for R410A refrigerant.
For additional guidance and precautions related to refrigerant safety, please refer to the following documents:

International Mechanical Code 2009 (IMC-2009)
(or more recently revised)
ASHRAE 15
ASHRAE 34

Precautions for Installation Using New Refrigerant

1. Care regarding tubing

1-1. Process tubing

- Material: Use C1220 phosphorous deoxidized copper specified in JIS H3300 “Copper and Copper Alloy Seamless Pipes and Tubes.”
- **Tubing size: Be sure to use the sizes indicated in the table below.**
- Use a tube cutter when cutting the tubing, and be sure to remove any flash. This also applies to distribution joints (optional).
- When bending tubing ø5/8" or smaller, use a bending radius that is 4 times the outer diameter of the tubing or larger.

CAUTION **Use sufficient care in handling the tubing. Seal the tubing ends with caps or tape to prevent dirt, moisture, or other foreign substances from entering. These substances can result in system malfunction.**

Unit: inch

Material		O			
Copper tube	Outer diameter	1/4	3/8	1/2	5/8
	Wall thickness	t0.032	t0.032	t0.032	t0.04

1-2. Prevent impurities including water, dust and oxide from entering the tubing. Impurities can cause R410A refrigerant deterioration and compressor defects. Due to the features of the refrigerant and refrigerating machine oil, the prevention of water and other impurities becomes more important than ever.

2. Be sure to recharge the refrigerant only in liquid form.

2-1. Since R410A is a non-azeotrope, recharging the refrigerant in gas form can lower performance and cause defects of the unit.

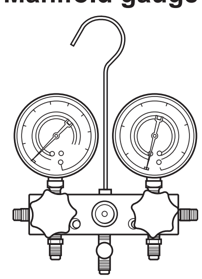
2-2. Since refrigerant composition changes and performance decreases when gas leaks, collect the remaining refrigerant and recharge the required total amount of new refrigerant after fixing the leak.

3. Different tools required

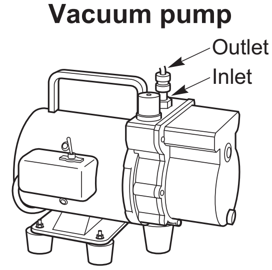
3-1. Tool specifications have been changed due to the characteristics of R410A.
Some tools for R22- and R407C-type refrigerant systems cannot be used.

Item	New tool?	R407C tools compatible with R410A?	Remarks
Manifold gauge	Yes	No	Types of refrigerant, refrigerating machine oil, and pressure gauge are different.
Charge hose	Yes	No	To resist higher pressure, material must be changed.
Vacuum pump	Yes	Yes	Use a conventional vacuum pump if it is equipped with a check valve. If it has no check valve, purchase and attach a vacuum pump adapter.
Leak detector	Yes	No	Leak detectors for CFC and HCFC that react to chlorine do not function because R410A contains no chlorine. Leak detector for HFC134a can be used for R410A.
Flaring oil	Yes	No	For systems that use R22, apply mineral oil (Suniso oil) to the flare nuts on the tubing to prevent refrigerant leakage. For machines that use R407C or R410A, apply synthetic oil (ether oil) to the flare nuts.

Manifold gauge



Vacuum pump

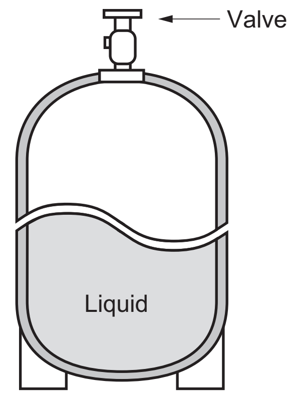


* Using tools for R22 and R407C and new tools for R410A together can cause defects.

3-2. Use R410A exclusive cylinder only.

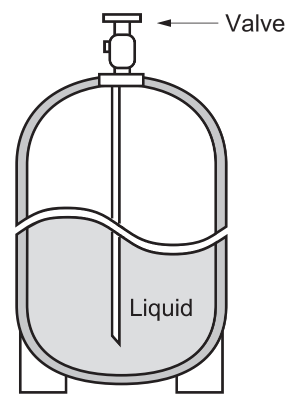
- When charging with a refrigerant cylinder, use an electronic scale for charging refrigerant. In this case, if the volume of refrigerant in the cylinder becomes less than 20% of the fully-charged amount, the composition of the refrigerant starts to change. Thus, do not use the refrigerant if the amount in the charging cylinder is less than 20%. Also, charge the minimum necessary amount to the charging cylinder before using it to charge the air conditioning unit.

Configuration and characteristics of cylinders



Single valve
Charge liquid refrigerant with cylinder in up-side-down position.

Fig. 1



Single valve (with siphon tube)
Charge with cylinder in normal position.

Fig. 2

Contents

1. SPECIFICATIONS

TENTATIVE

1

1-1 Unit Specifications

4-Way Cassette Type

MODEL No.						
	Indoor Unit		S-26PU1U6			
	Outdoor Unit		U-26PE1U6			
POWER SOURCE			230 - 208 V / 1 Phase / 60 Hz			
PERFORMANCE			Cooling		Heating	
Capacity * [minimum~muximum]		BTU / h	24,800 [9,500~24,800]		29,800 [8,000~29,800]	
(17˚F)**		BTU / h	—		18,300	
Moisture removal (High)		Pints / h	8.1		—	
Air circulation (H / M / L) 230 V		CFM	710 / 530 / 450			
External Static Pressure		in. WG	—			
S.E.E.R. / H.S.P.F. (Region 4)		BTU / Wh	14.1		9.6	
ELECTRICAL RATINGS						
Voltage rating		V	230	208	230	208
Available voltage range		V	VAC 187 - 253		VAC 187 - 253	
Max.Running amperes*		A	15.6	17.3	14.8	16.4
Power input		W	2,920	2,920	2,790	2,790
(17˚F)**		W	—		2,200	2,200
Back-up Heater		kW	—			
Maximum overcurrent protection (Indoor/Outdoor)		A	15 / 30			
FEATURES						
Controls			Microprocessor			
Low ambient control			Built-in 0˚F			
Fan speeds Indoor / Outdoor			3 and Automatic control / Variable			
Wired Remote Controller			CZ-RTC2			
Optional Wireless Remote Controller			CZ-RWSU1U			
Air deflection (Horizontal / Vertical)			— / Automatic (Vertical)			
Air filter			Washable, long life (2,500 hr)			
Drain pump (Drain connection)			Max.head 2-33/64 in. above drain connection (25A , OD32mm)			
Compressor			Rotary			
Operation sound	Indoor - Hi/Me/Lo	dB - A	38 / 35 / 31			
	Outdoor - Hi	dB - A	49			
Refrigerant control			Electronic Expansion Valve (MOV)			
REFRIGERANT TUBING						
Limit of tubing length		ft. (m)	165 (50)			
Limit of tubing length at shipment		ft. (m)	10~100 (3~30)			
Limit of elevation difference between the two units		ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)			
		ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)			
Refrigerant tube outer diameter	Narrow tube	in. (mm)	3 / 8 (6.35)			
	Wide tube	in. (mm)	5 / 8 (15.88)			
Refrigerant amount at shipment		lbs. (kg)	4.2 (1.9) - R410A			
DIMENSIONS & WEIGHT			Indoor unit (Include panel)		Outdoor unit	
Unit dimensions	Height	in. (mm)	13-5/16 (338)		30- 23/32 (780)	
	Width	in. (mm)	33-55/64 (860)		37 (940)	
	Depth	in. (mm)	33-55/64 (860)		13- 3/8 (340)	
Package dimensions			Body	Panel	Outdoor unit	
	Height	in. (mm)	11-9/64 (283)	4-3/32 (104)	34- 31/32 (888)	
	Width	in. (mm)	32-7/8 (835)	37-61/64 (964)	39- 31/32 (1,015)	
	Depth	in. (mm)	33-9/32 (845)	39-21/64 (999)	16- 3/32 (409)	
Net weight		lbs. (kg)	49 (22)	11 (5)	128 (58)	
Shipping weight		lbs. (kg)	57 (26)	18 (8)	148 (67)	
Shipping volume		cu.ft. (m 3)	7.1 (0.200)	3.6 (0.100)	13.0 (0.369)	

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:

Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:

Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

4-Way Cassette Type

MODEL No.						
Indoor Unit		S-36PU1U6				
Outdoor Unit		U-36PE1U6				
POWER SOURCE		230 - 208 V / 1 Phase / 60 Hz				
PERFORMANCE		Cooling		Heating		
Capacity * [minimum~muximum]	BTU / h	32,600 [9,500~32,600]		37,600 [8,000~37,600]		
(17˚F)**	BTU / h	—		20,000		
Moisture removal (High)	Pints / h	10.6		—		
Air circulation (H / M / L) 230 V	CFM	1050 / 840 / 720				
External Static Pressure	in. WG	—				
S.E.E.R. / H.S.P.F. (Region 4)	BTU / Wh	14.6		8.4		
ELECTRICAL RATINGS						
Voltage rating	V	230	208	230	208	
Available voltage range	V	VAC 187 - 253		VAC 187 - 253		
Max. Running amperes*	A	18.7	20.7	15.9	17.6	
Power input	W	3,950	3,950	3,350	3,350	
(17˚F)**	W	—		2,450	2,450	
Back-up Heater	kW	—				
Maximum overcurrent protection (Indoor/Outdoor)	A	15 / 35				
FEATURES						
Controls		Microprocessor				
Low ambient control		Built-in 0˚F				
Fan speeds Indoor / Outdoor		3 and Automatic control / Variable				
Wired Remote Controller		CZ-RTC2				
Optional Wireless Remote Controller		CZ-RWSU1U				
Air deflection (Horizontal / Vertical)		— / Automatic (Vertical)				
Air filter		Washable, long life (2,500 hr)				
Drain pump (Drain connection)		Max.head 2-33/64 in. above drain connection (25A , OD32mm)				
Compressor		Rotary				
Operation sound — Indoor - Hi/Me/Lo	dB - A	44 / 37 / 33				
Operation sound — Outdoor - Hi	dB - A	52				
Refrigerant control		Electronic Expansion Valve (MOV)				
REFRIGERANT TUBING						
Limit of tubing length	ft. (m)	165 (50)				
Limit of tubing length at shipment	ft. (m)	10~100 (3~30)				
Limit of elevation difference between the two units	ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)				
	ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)				
Refrigerant tube outer diameter — Narrow tube	in. (mm)	3 / 8 (6.35)				
Refrigerant tube outer diameter — Wide tube	in. (mm)	5 / 8 (15.88)				
Refrigerant amount at shipment	lbs. (kg)	6.2 (2.8) - R410A				
DIMENSIONS & WEIGHT		Indoor unit (Include panel)		Outdoor unit		
Unit dimensions — Height	in. (mm)	14-31/64 (368)		30- 23/32 (780)		
Unit dimensions — Width	in. (mm)	45-9/32 (1,150)		37 (940)		
Unit dimensions — Depth	in. (mm)	33-55/64 (860)		13- 3/8 (340)		
Package dimensions		Body	Panel	Outdoor unit		
Package dimensions — Height	in. (mm)	12-13/32 (315)	4-3/32 (104)	34- 31/32 (888)		
Package dimensions — Width	in. (mm)	44-19/64 (1,125)	49-31/64 (1,257)	39- 31/32 (1,015)		
Package dimensions — Depth	in. (mm)	33-9/32 (845)	39-21/64 (999)	16- 3/32 (409)		
Net weight	lbs. (kg)	60 (27)	16 (7)	143 (65)		
Shipping weight	lbs. (kg)	71 (32)	22 (10)	161 (73)		
Shipping volume	cu.ft. (m 3)	10.6 (0.299)	4.6 (0.131)	13.0 (0.369)		

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:

Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:

Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

4-Way Cassette Type

MODEL No.						
	Indoor Unit		S-42PU1U6			
	Outdoor Unit		U-42PE1U6			
POWER SOURCE			230 - 208 V / 1 Phase / 60 Hz			
PERFORMANCE			Cooling		Heating	
Capacity * [minimum~muximum]		BTU / h	39,500 [9,500~39,500]		48,000 [8,000~48,000]	
(17˚F)**		BTU / h	—		31,800	
Moisture removal (High)		Pints / h	12.6		—	
Air circulation (H / M / L) 230 V		CFM	1050 / 840 / 720			
External Static Pressure		in. WG	—			
S.E.E.R. / H.S.P.F. (Region 4)		BTU / Wh	14.6		9.7	
ELECTRICAL RATINGS						
Voltage rating		V	230	208	230	208
Available voltage range		V	VAC 187 - 253		VAC 187 - 253	
Max. Running amperes*		A	23.0	25.4	22.4	24.8
Power input		W	4,520	4,520	4,360	4,360
(17˚F)**		W	—		3,540	3,540
Back-up Heater		kW	—			
Maximum overcurrent protection (Indoor/Outdoor)		A	15 / 40			
FEATURES						
Controls			Microprocessor			
Low ambient control			Built-in 0˚F			
Fan speeds Indoor / Outdoor			3 and Automatic control / Variable			
Wired Remote Controller			CZ-RTC2			
Optional Wireless Remote Controller			CZ-RWSU1U			
Air deflection (Horizontal / Vertical)			— / Automatic (Vertical)			
Air filter			Washable, long life (2,500 hr)			
Drain pump (Drain connection)			Max.head 2-33/64 in. above drain connection (25A , OD32mm)			
Compressor			Rotary			
Operation sound	Indoor - Hi/Me/Lo	dB - A	45 / 38 / 34			
	Outdoor - Hi	dB - A	53			
Refrigerant control			Electronic Expansion Valve (MOV)			
REFRIGERANT TUBING						
Limit of tubing length		ft. (m)	165 (50)			
Limit of tubing length at shipment		ft. (m)	10~100 (3~30)			
Limit of elevation difference between the two units		ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)			
		ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)			
Refrigerant tube outer diameter	Narrow tube	in. (mm)	3 / 8 (6.35)			
	Wide tube	in. (mm)	5 / 8 (15.88)			
Refrigerant amount at shipment		lbs. (kg)	7.9 (3.6) - R410A			
DIMENSIONS & WEIGHT			Indoor unit (Include panel)		Outdoor unit	
Unit dimensions	Height	in. (mm)	14-31/64 (368)		48-7/16 (1,230)	
	Width	in. (mm)	45-9/32 (1,150)		37 (940)	
	Depth	in. (mm)	33-55/64 (860)		13- 3/8 (340)	
Package dimensions			Body	Panel	Outdoor unit	
	Height	in. (mm)	12-13/32 (315)	4-3/32 (104)	52-3/8 (1,330)	
	Width	in. (mm)	44-19/64 (1,125)	49-31/64 (1,257)	39- 31/32 (1,015)	
	Depth	in. (mm)	33-9/32 (845)	39-21/64 (999)	16- 3/32 (409)	
Net weight		lbs. (kg)	60 (27)	16 (7)	220 (100)	
Shipping weight		lbs. (kg)	71 (32)	22 (10)	240 (109)	
Shipping volume		cu.ft. (m 3)	10.6 (0.299)	4.6 (0.131)	19.5 (0.552)	

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:

Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:

Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

4-Way Cassette Type

MODEL No.	Indoor Unit		S-26PU1U6		
	Outdoor Unit		U-26PS1U6		
POWER SOURCE			230 - 208 V / 1 Phase / 60 Hz		
PERFORMANCE			Cooling		
Capacity * [minimum~muximum]		BTU / h	24,800 [9,500~24,800]		
(17˚F)**		BTU / h	—		
Moisture removal (High)		Pints / h	8.1		
Air circulation (H / M / L) 230 V		CFM	710 / 530 / 450		
External Static Pressure		in. WG	—		
S.E.E.R. / H.S.P.F. (Region 4)		BTU / Wh	14.1		
ELECTRICAL RATINGS					
Voltage rating		V	230	208	
Available voltage range		V	VAC 187 - 253		
Max. Running amperes*		A	15.6	17.3	
Power input		W	2,920	2,920	
(17˚F)**		W	—		
Back-up Heater		kW	—		
Maximum overcurrent protection (Indoor/Outdoor)		A	15 / 30		
FEATURES					
Controls			Microprocessor		
Low ambient control			Built-in 0˚F		
Fan speeds Indoor / Outdoor			3 and Automatic control / Variable		
Wired Remote Controller			CZ-RTC2		
Optional Wireless Remote Controller			CZ-RWSU1U		
Air deflection (Horizontal / Vertical)			— / Automatic (Vertical)		
Air filter			Washable, long life (2,500 hr)		
Drain pump (Drain connection)			Max.head 2-33/64 in. above drain connection (25A , OD32mm)		
Compressor			Rotary		
Operation sound	Indoor - Hi/Me/Lo	dB - A	38 / 35 / 31		
	Outdoor - Hi	dB - A	49		
Refrigerant control			Electronic Expansion Valve (MOV)		
REFRIGERANT TUBING					
Limit of tubing length		ft. (m)	165 (50)		
Limit of tubing length at shipment		ft. (m)	10~100 (3~30)		
Limit of elevation difference between the two units		ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)		
		ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)		
Refrigerant tube outer diameter	Narrow tube	in. (mm)	3 / 8 (6.35)		
	Wide tube	in. (mm)	5 / 8 (15.88)		
Refrigerant amount at shipment		lbs. (kg)	4.2 (1.9) - R410A		
DIMENSIONS & WEIGHT			Indoor unit (Include panel)		Outdoor unit
Unit dimensions	Height	in. (mm)	13-5/16 (338)		30- 23/32 (780)
	Width	in. (mm)	33-55/64 (860)		37 (940)
	Depth	in. (mm)	33-55/64 (860)		13- 3/8 (340)
Package dimensions			Body	Panel	Outdoor unit
	Height	in. (mm)	11-9/64 (283)	4-3/32 (104)	34- 31/32 (888)
	Width	in. (mm)	32-7/8 (835)	37-61/64 (964)	39- 31/32 (1,015)
	Depth	in. (mm)	33-9/32 (845)	39-21/64 (999)	16- 3/32 (409)
Net weight		lbs. (kg)	49 (22)	11 (5)	128 (58)
Shipping weight		lbs. (kg)	57 (26)	18 (8)	148 (67)
Shipping volume		cu.ft. (m 3)	7.1 (0.200)	3.6 (0.100)	13.0 (0.369)

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:
Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:
Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

4-Way Cassette Type

MODEL No.						
	Indoor Unit		S-36PU1U6			
	Outdoor Unit		U-36PS1U6			
POWER SOURCE			230 - 208 V / 1 Phase / 60 Hz			
PERFORMANCE			Cooling			
Capacity * [minimum~muximum]		BTU / h	32,600 [9,500~32,600]			
(17˚F)**		BTU / h	—			
Moisture removal (High)		Pints / h	10.6			
Air circulation (H / M / L) 230 V		CFM	1050 / 840 / 720			
External Static Pressure		in. WG	—			
S.E.E.R. / H.S.P.F. (Region 4)		BTU / Wh	14.6			
ELECTRICAL RATINGS						
Voltage rating		V	230		208	
Available voltage range		V	VAC 187 - 253			
Max. Running amperes*		A	18.7		20.7	
Power input		W	3,950		3,950	
(17˚F)**		W	—			
Back-up Heater		kW	—			
Maximum overcurrent protection (Indoor/Outdoor)		A	15 / 30			
FEATURES						
Controls			Microprocessor			
Low ambient control			Built-in 0˚F			
Fan speeds Indoor / Outdoor			3 and Automatic control / Variable			
Wired Remote Controller			CZ-RTC2			
Optional Wireless Remote Controller			CZ-RWSU1U			
Air deflection (Horizontal / Vertical)			— / Automatic (Vertical)			
Air filter			Washable, long life (2,500 hr)			
Drain pump (Drain connection)			Max.head 2-33/64 in. above drain connection (25A , OD32mm)			
Compressor			Rotary			
Operation sound	Indoor - Hi/Me/Lo	dB - A	44 / 37 / 33			
	Outdoor - Hi	dB - A	52			
Refrigerant control			Electronic Expansion Valve (MOV)			
REFRIGERANT TUBING						
Limit of tubing length		ft. (m)	165 (50)			
Limit of tubing length at shipment		ft. (m)	10~100 (3~30)			
Limit of elevation difference		ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)			
between the two units		ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)			
Refrigerant tube	Narrow tube	in. (mm)	3 / 8 (6.35)			
outer diameter	Wide tube	in. (mm)	5 / 8 (15.88)			
Refrigerant amount at shipment		lbs. (kg)	6.2 (2.8) - R410A			
DIMENSIONS & WEIGHT			Indoor unit (Include panel)		Outdoor unit	
Unit dimensions	Height	in. (mm)	14-31/64 (368)		30- 23/32 (780)	
	Width	in. (mm)	45-9/32 (1,150)		37 (940)	
	Depth	in. (mm)	33-55/64 (860)		13- 3/8 (340)	
Package dimensions			Body	Panel	Outdoor unit	
	Height	in. (mm)	12-13/32 (315)	4-3/32 (104)	34- 31/32 (888)	
	Width	in. (mm)	44-19/64 (1,125)	49-31/64 (1,257)	39- 31/32 (1,015)	
	Depth	in. (mm)	33-9/32 (845)	39-21/64 (999)	16- 3/32 (409)	
Net weight		lbs. (kg)	60 (27)	16 (7)	143 (65)	
Shipping weight		lbs. (kg)	71 (32)	22 (10)	161 (73)	
Shipping volume		cu.ft. (m 3)	10.6 (0.299)	4.6 (0.131)	13.0 (0.369)	

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:

Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:

Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

4-Way Cassette Type

MODEL No.					
	Indoor Unit		S-42PU1U6		
	Outdoor Unit		U-42PS1U6		
POWER SOURCE			230 - 208 V / 1 Phase / 60 Hz		
PERFORMANCE			Cooling		
Capacity * [minimum~muximum]		BTU / h	39,500 [9,500~39,500]		
(17˚F)**		BTU / h	—		
Moisture removal (High)		Pints / h	12.6		
Air circulation (H / M / L) 230 V		CFM	1050 / 840 / 720		
External Static Pressure		in. WG	—		
S.E.E.R. / H.S.P.F. (Region 4)		BTU / Wh	14.6		
ELECTRICAL RATINGS					
Voltage rating		V	230	208	
Available voltage range		V	VAC 187 - 253		
Max. Running amperes*		A	23.0	25.4	
Power input		W	4,520	4,520	
(17˚F)**		W	—		
Back-up Heater		kW	—		
Maximum overcurrent protection (Indoor/Outdoor)		A	15 / 35		
FEATURES					
Controls			Microprocessor		
Low ambient control			Built-in 0˚F		
Fan speeds Indoor / Outdoor			3 and Automatic control / Variable		
Wired Remote Controller			CZ-RTC2		
Optional Wireless Remote Controller			CZ-RWSU1U		
Air deflection (Horizontal / Vertical)			— / Automatic (Vertical)		
Air filter			Washable, long life (2,500 hr)		
Drain pump (Drain connection)			Max.head 2-33/64 in. above drain connection (25A , OD32mm)		
Compressor			Rotary		
Operation sound	Indoor - Hi/Me/Lo	dB - A	45 / 38 / 34		
	Outdoor - Hi	dB - A	53		
Refrigerant control			Electronic Expansion Valve (MOV)		
REFRIGERANT TUBING					
Limit of tubing length		ft. (m)	165 (50)		
Limit of tubing length at shipment		ft. (m)	10~100 (3~30)		
Limit of elevation difference between the two units		ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)		
		ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)		
Refrigerant tube outer diameter	Narrow tube	in. (mm)	3 / 8 (6.35)		
	Wide tube	in. (mm)	5 / 8 (15.88)		
Refrigerant amount at shipment		lbs. (kg)	7.9 (3.6) - R410A		
DIMENSIONS & WEIGHT			Indoor unit (Include panel)		Outdoor unit
Unit dimensions	Height	in. (mm)	14-31/64 (368)		48-7/16 (1,230)
	Width	in. (mm)	45-9/32 (1,150)		37 (940)
	Depth	in. (mm)	33-55/64 (860)		13- 3/8 (340)
Package dimensions			Body	Panel	Outdoor unit
	Height	in. (mm)	12-13/32 (315)	4-3/32 (104)	52-3/8 (1,330)
	Width	in. (mm)	44-19/64 (1,125)	49-31/64 (1,257)	39- 31/32 (1,015)
	Depth	in. (mm)	33-9/32 (845)	39-21/64 (999)	16- 3/32 (409)
Net weight		lbs. (kg)	60 (27)	16 (7)	220 (100)
Shipping weight		lbs. (kg)	71 (32)	22 (10)	240 (109)
Shipping volume		cu.ft. (m 3)	10.6 (0.299)	4.6 (0.131)	19.5 (0.552)

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:

Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:

Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

Wall Mounted Type

MODEL No.	Indoor Unit		S-26PK1U6			
	Outdoor Unit		U-26PE1U6			
POWER SOURCE			230 - 208 V / 1 Phase / 60 Hz			
PERFORMANCE			Cooling		Heating	
Capacity * [minimum~muximum]		BTU / h	25,200 [9,500~25,200]		29,200 [8,000~29,200]	
(17˚F)**		BTU / h	—		17,200	
Moisture removal (High)		Pints / h	8.1		—	
Air circulation (H / M / L) 230 V		CFM	559 / 475 / 390			
External Static Pressure		in. WG	—			
S.E.E.R. / H.S.P.F. (Region 4)		BTU / Wh	14.9		10.2	
ELECTRICAL RATINGS						
Voltage rating		V	230	208	230	208
Available voltage range		V	VAC 187 - 253		VAC 187 - 253	
Max. Running amperes*		A	15.3	16.9	14.0	15.5
Power input		W	2,840	2,840	2,620	2,620
(17˚F)**		W	—		2,030	2,030
Back-up Heater		kW	—			
Maximum overcurrent protection (Indoor/Outdoor)		A	15 / 30			
FEATURES						
Controls			Microprocessor			
Low ambient control			Built-in 0˚F			
Fan speeds Indoor / Outdoor			3 and Automatic control / Variable			
Optional Wired Remote Controller			CZ-RTC2			
Wireless Remote Controller			CZ-RWSK1U			
Air deflection (Horizontal / Vertical)			— / Automatic (Vertical)			
Air filter			Washable			
Drain pump (Drain connection)			— (20A , OD26mm)			
Compressor			Rotary			
Operation sound	Indoor - Hi/Me/Lo	dB - A	48 / 42 / 38			
	Outdoor - Hi	dB - A	49			
Refrigerant control			Electronic Expansion Valve (MOV)			
REFRIGERANT TUBING						
Limit of tubing length		ft. (m)	165 (50)			
Limit of tubing length at shipment		ft. (m)	10~100 (3~30)			
Limit of elevation difference		ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)			
between the two units		ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)			
Refrigerant tube	Narrow tube	in. (mm)	3 / 8 (6.35)			
outer diameter	Wide tube	in. (mm)	5 / 8 (15.88)			
Refrigerant amount at shipment		lbs. (kg)	4.2 (1.9) - R410A			
DIMENSIONS & WEIGHT			Indoor unit		Outdoor unit	
Unit dimensions	Height	in. (mm)	12- 63/64 (330)		30- 23/32 (780)	
	Width	in. (mm)	44- 7/8 (1,140)		37 (940)	
	Depth	in. (mm)	8- 31/32 (228)		13- 3/8 (340)	
Package dimensions			Indoor unit		Outdoor unit	
	Height	in. (mm)	15- 11/32 (390)		34- 31/32 (888)	
	Width	in. (mm)	47- 27/32 (1,215)		39- 31/32 (1,015)	
	Depth	in. (mm)	11- 17/32 (293)		16- 3/32 (409)	
Net weight		lbs. (kg)	40 (18)		128 (58)	
Shipping weight		lbs. (kg)	44 (20)		148 (67)	
Shipping volume		cu.ft. (m 3)	4.9 (0.139)		13.0 (0.369)	

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:

Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:

Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

Wall Mounted Type

MODEL No.				
	Indoor Unit		S-26PK1U6	
	Outdoor Unit		U-26PS1U6	
POWER SOURCE			230 - 208 V / 1 Phase / 60 Hz	
PERFORMANCE			Cooling	
Capacity * [minimum~muximum]		BTU / h	25,200 [9,500~25,200]	
(17˚F)**		BTU / h	—	
Moisture removal (High)		Pints / h	8.1	
Air circulation (H / M / L) 230 V		CFM	559 / 475 / 390	
External Static Pressure		in. WG	—	
S.E.E.R. / H.S.P.F. (Region 4)		BTU / Wh	14.9	
ELECTRICAL RATINGS				
Voltage rating		V	230	208
Available voltage range		V	VAC 187 - 253	
Max. Running amperes*		A	15.3	16.9
Power input		W	2,840	2,840
(17˚F)**		W	—	
Back-up Heater		kW	—	
Maximum overcurrent protection (Indoor/Outdoor)		A	15 / 30	
FEATURES				
Controls			Microprocessor	
Low ambient control			Built-in 0˚F	
Fan speeds Indoor / Outdoor			3 and Automatic control / Variable	
Optional Wired Remote Controller			CZ-RTC2	
Wireless Remote Controller			CZ-RWSK1U	
Air deflection (Horizontal / Vertical)			— / Automatic (Vertical)	
Air filter			Washable	
Drain pump (Drain connection)			— (20A , OD26mm)	
Compressor			Rotary	
Operation sound	Indoor - Hi/Me/Lo	dB - A	48 / 42 / 38	
	Outdoor - Hi	dB - A	49	
Refrigerant control			Electronic Expansion Valve (MOV)	
REFRIGERANT TUBING				
Limit of tubing length		ft. (m)	165 (50)	
Limit of tubing length at shipment		ft. (m)	10~100 (3~30)	
Limit of elevation difference between the two units		ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)	
		ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)	
Refrigerant tube outer diameter	Narrow tube	in. (mm)	3 / 8 (6.35)	
	Wide tube	in. (mm)	5 / 8 (15.88)	
Refrigerant amount at shipment		lbs. (kg)	4.2 (1.9) - R410A	
DIMENSIONS & WEIGHT			Indoor unit	Outdoor unit
Unit dimensions	Height	in. (mm)	12- 63/64 (330)	30- 23/32 (780)
	Width	in. (mm)	44- 7/8 (1,140)	37 (940)
	Depth	in. (mm)	8- 31/32 (228)	13- 3/8 (340)
Package dimensions			Indoor unit	Outdoor unit
	Height	in. (mm)	15- 11/32 (390)	34- 31/32 (888)
	Width	in. (mm)	47- 27/32 (1,215)	39- 31/32 (1,015)
	Depth	in. (mm)	11- 17/32 (293)	16- 3/32 (409)
Net weight		lbs. (kg)	40 (18)	128 (58)
Shipping weight		lbs. (kg)	44 (20)	148 (67)
Shipping volume		cu.ft. (m 3)	4.9 (0.139)	13.0 (0.369)

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:
Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:
Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

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1-1 Unit Specifications

Ceiling Type

MODEL No.						
MODEL No.	Indoor Unit		S-26PT1U6			
	Outdoor Unit		U-26PE1U6			
POWER SOURCE			230 - 208 V / 1 Phase / 60 Hz			
PERFORMANCE			Cooling		Heating	
Capacity * [minimum~muximum]		BTU / h	24,400 [9,500~24,400]		30,800 [8,000~30,800]	
(17˚F)**		BTU / h	—		17,900	
Moisture removal (High)		Pints / h	7.7		—	
Air circulation (H / M / L) 230 V		CFM	550 / 490 / 460			
External Static Pressure		in. WG	—			
S.E.E.R. / H.S.P.F. (Region 4)		BTU / Wh	14.5		9.4	
ELECTRICAL RATINGS						
Voltage rating		V	230	208	230	208
Available voltage range		V	VAC 187 - 253		VAC 187 - 253	
Max. Running amperes* (Without Back-up Heater)		A	15.6	17.3	16.4	18.1
Power input		W	2,880	2,880	3,000	3,000
(17˚F)**		W	—		2,190	2,190
Back-up Heater		kW	—			
Maximum overcurrent protection (Indoor/Outdoor)		A	15 / 30			
FEATURES						
Controls	Microprocessor		Microprocessor			
Low ambient control			Built-in 0˚F			
Fan speeds Indoor / Outdoor			3 and Automatic control / Variable			
Wired Remote Controller			CZ-RTC2			
Optional Wireless Remote Controller			CZ-RWSU1U			
Air deflection (Horizontal / Vertical)			— / Automatic (Vertical)			
Air filter			Washable, long life (2,500 hr)			
Drain pump (Drain connection)			— (20A , OD26mm)			
Compressor			Rotary			
Operation sound	Indoor - Hi/Me/Lo	dB - A	39 / 37 / 33			
	Outdoor - Hi	dB - A	49			
Refrigerant control			Electronic Expansion Valve (MOV)			
REFRIGERANT TUBING						
Limit of tubing length		ft. (m)	165 (50)			
Limit of tubing length at shipment		ft. (m)	10~100 (3~30)			
Limit of elevation difference between the two units		ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)			
		ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)			
Refrigerant tube outer diameter	Narrow tube	in. (mm)	3 / 8 (6.35)			
	Wide tube	in. (mm)	5 / 8 (15.88)			
Refrigerant amount at shipment		lbs. (kg)	4.2 (1.9) - R410A			
DIMENSIONS & WEIGHT			Indoor unit		Outdoor unit	
Unit dimensions	Height	in. (mm)	7-17/32 (190)		30- 23/32 (780)	
	Width	in. (mm)	51-3/16 (1,300)		37 (940)	
	Depth	in. (mm)	26-3/8 (670)		13- 3/8 (340)	
Package dimensions			Indoor unit		Outdoor unit	
	Height	in. (mm)	9-7/16 (240)		34- 31/32 (888)	
	Width	in. (mm)	54-19/32 (1,387)		39- 31/32 (1,015)	
	Depth	in. (mm)	31-1/16 (789)		16- 3/32 (409)	
Net weight		lbs. (kg)	57 (26)		128 (58)	
Shipping weight		lbs. (kg)	68 (31)		148 (67)	
Shipping volume		cu.ft. (m 3)	8.9 (0.253)		13.0 (0.369)	

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:

Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:

Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

Ceiling Type

MODEL No.						
	Indoor Unit		S-36PT1U6			
	Outdoor Unit		U-36PE1U6			
POWER SOURCE			230 - 208 V / 1 Phase / 60 Hz			
PERFORMANCE			Cooling		Heating	
Capacity * [minimum~muximum]		BTU / h	31,200 [9,500~31,200]		37,400 [8,000~37,400]	
(17˚F)**		BTU / h	—		21,000	
Moisture removal (High)		Pints / h	10.0		—	
Air circulation (H / M / L) 230 V		CFM	1100 / 930 / 750			
External Static Pressure		in. WG	—			
S.E.E.R. / H.S.P.F. (Region 4)		BTU / Wh	15.1		8.8	
ELECTRICAL RATINGS						
Voltage rating		V	230	208	230	208
Available voltage range		V	VAC 187 - 253		VAC 187 - 253	
Max. Running amperes*		A	18.2	20.1	15.6	17.3
Power input		W	3,840	3,840	3,250	3,250
(17˚F)**		W	—		2,470	2,470
Back-up Heater		kW	—			
Maximum overcurrent protection (Indoor/Outdoor)		A	15 / 35			
FEATURES						
Controls			Microprocessor			
Low ambient control			Built-in 0˚F			
Fan speeds Indoor / Outdoor			3 and Automatic control / Variable			
Wired Remote Controller			CZ-RTC2			
Optional Wireless Remote Controller			CZ-RWSU1U			
Air deflection (Horizontal / Vertical)			— / Automatic (Vertical)			
Air filter			Washable, long life (2,500 hr)			
Drain pump (Drain connection)			— (20A , OD26mm)			
Compressor			Rotary			
Operation sound	Indoor - Hi/Me/Lo	dB - A	42 / 40 / 35			
	Outdoor - Hi	dB - A	52			
Refrigerant control			Electronic Expansion Valve (MOV)			
REFRIGERANT TUBING						
Limit of tubing length		ft. (m)	165 (50)			
Limit of tubing length at shipment		ft. (m)	10~100 (3~30)			
Limit of elevation difference		ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)			
between the two units		ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)			
Refrigerant tube	Narrow tube	in. (mm)	3 / 8 (6.35)			
outer diameter	Wide tube	in. (mm)	5 / 8 (15.88)			
Refrigerant amount at shipment		lbs. (kg)	6.2 (2.8) - R410A			
DIMENSIONS & WEIGHT			Indoor unit		Outdoor unit	
Unit dimensions	Height	in. (mm)	9-7/16 (240)		30- 23/32 (780)	
	Width	in. (mm)	62-1/32 (1,575)		37 (940)	
	Depth	in. (mm)	26-3/8 (670)		13- 3/8 (340)	
Package dimensions			Indoor unit		Outdoor unit	
	Height	in. (mm)	12-15/32 (317)		34- 31/32 (888)	
	Width	in. (mm)	66-1/16 (1,678)		39- 31/32 (1,015)	
	Depth	in. (mm)	31-1/16 (789)		16- 3/32 (409)	
Net weight		lbs. (kg)	84 (38)		143 (65)	
Shipping weight		lbs. (kg)	97 (44)		161 (73)	
Shipping volume		cu.ft. (m 3)	14.8 (0.420)		13.0 (0.369)	

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:
Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:
Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

Ceiling Type

MODEL No.				S-42PT1U6			
	Outdoor Unit			U-42PE1U6			
POWER SOURCE				230 - 208 V / 1 Phase / 60 Hz			
PERFORMANCE				Cooling		Heating	
Capacity * [minimum~muximum]			BTU / h	39,000 [9,500~39,000]		44,500 [8,000~44,500]	
(17˚F)**			BTU / h	—		28,800	
Moisture removal (High)			Pints / h	12.6		—	
Air circulation (H / M / L) 230 V			CFM	1130 / 950 / 775			
External Static Pressure			in. WG	—			
S.E.E.R. / H.S.P.F. (Region 4)			BTU / Wh	15.6		9.5	
ELECTRICAL RATINGS							
Voltage rating			V	230	208	230	208
Available voltage range			V	VAC 187 - 253		VAC 187 - 253	
Max. Running amperes*			A	21.1	23.3	18.6	20.6
Power input			W	4,140	4,140	3,630	3,630
(17˚F)**			W	—		3,110	3,110
Back-up Heater			kW	—			
Maximum overcurrent protection (Indoor/Outdoor)			A	15 / 40			
FEATURES							
Controls				Microprocessor			
Low ambient control				Built-in 0˚F			
Fan speeds Indoor / Outdoor				3 and Automatic control / Variable			
Wired Remote Controller				CZ-RTC2			
Optional Wireless Remote Controller				CZ-RWSU1U			
Air deflection (Horizontal / Vertical)				— / Automatic (Vertical)			
Air filter				Washable, long life (2,500 hr)			
Drain pump (Drain connection)				— (20A , OD26mm)			
Compressor				Rotary			
Operation sound	Indoor - Hi/Me/Lo		dB - A	44 / 41 / 37			
	Outdoor - Hi		dB - A	53			
Refrigerant control				Electronic Expansion Valve (MOV)			
REFRIGERANT TUBING							
Limit of tubing length			ft. (m)	165 (50)			
Limit of tubing length at shipment			ft. (m)	10~100 (3~30)			
Limit of elevation difference			ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)			
between the two units			ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)			
Refrigerant tube	Narrow tube		in. (mm)	3 / 8 (6.35)			
outer diameter	Wide tube		in. (mm)	5 / 8 (15.88)			
Refrigerant amount at shipment			lbs. (kg)	7.9 (3.6) - R410A			
DIMENSIONS & WEIGHT				Indoor unit		Outdoor unit	
Unit dimensions	Height		in. (mm)	9-7/16 (240)		48-7/16 (1,230)	
	Width		in. (mm)	62-1/32 (1,575)		37 (940)	
	Depth		in. (mm)	26-3/8 (670)		13- 3/8 (340)	
Package dimensions				Indoor unit		Outdoor unit	
	Height		in. (mm)	12-15/32 (317)		52-3/8 (1,330)	
	Width		in. (mm)	66-1/16 (1,678)		39- 31/32 (1,015)	
	Depth		in. (mm)	31-1/16 (789)		16- 3/32 (409)	
Net weight			lbs. (kg)	84 (38)		220 (100)	
Shipping weight			lbs. (kg)	97 (44)		240 (109)	
Shipping volume			cu.ft. (m 3)	14.8 (0.420)		19.5 (0.552)	

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:
Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:
Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

Ceiling Type

MODEL No.				
MODEL No.	Indoor Unit		S-26PT1U6	
	Outdoor Unit		U-26PS1U6	
POWER SOURCE			230 - 208 V / 1 Phase / 60 Hz	
PERFORMANCE			Cooling	
Capacity * [minimum~muximum]		BTU / h	24,400 [9,500~24,400]	
(17˚F)**		BTU / h	—	
Moisture removal (High)		Pints / h	7.7	
Air circulation (H / M / L) 230 V		CFM	550 / 490 / 460	
External Static Pressure		in. WG	—	
S.E.E.R. / H.S.P.F. (Region 4)		BTU / Wh	14.5	
ELECTRICAL RATINGS				
Voltage rating		V	230	208
Available voltage range		V	VAC 187 - 253	
Max. Running amperes* (Without Back-up Heater)		A	15.6	17.3
Power input		W	2,880	2,880
(17˚F)**		W	—	
Back-up Heater		kW	—	
Maximum overcurrent protection (Indoor/Outdoor)		A	15 / 30	
FEATURES				
Controls			Microprocessor	
Low ambient control			Built-in 0˚F	
Fan speeds Indoor / Outdoor			3 and Automatic control / Variable	
Wired Remote Controller			CZ-RTC2	
Optional Wireless Remote Controller			CZ-RWSU1U	
Air deflection (Horizontal / Vertical)			— / Automatic (Vertical)	
Air filter			Washable, long life (2,500 hr)	
Drain pump (Drain connection)			— (20A , OD26mm)	
Compressor			Rotary	
Operation sound	Indoor - Hi/Me/Lo	dB - A	39 / 37 / 33	
	Outdoor - Hi	dB - A	49	
Refrigerant control			Electronic Expansion Valve (MOV)	
REFRIGERANT TUBING				
Limit of tubing length		ft. (m)	165 (50)	
Limit of tubing length at shipment		ft. (m)	10~100 (3~30)	
Limit of elevation difference between the two units		ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)	
		ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)	
Refrigerant tube outer diameter	Narrow tube	in. (mm)	3 / 8 (6.35)	
	Wide tube	in. (mm)	5 / 8 (15.88)	
Refrigerant amount at shipment		lbs. (kg)	4.2 (1.9) - R410A	
DIMENSIONS & WEIGHT			Indoor unit	Outdoor unit
Unit dimensions	Height	in. (mm)	7-17/32 (190)	30- 23/32 (780)
	Width	in. (mm)	51-3/16 (1,300)	37 (940)
	Depth	in. (mm)	26-3/8 (670)	13- 3/8 (340)
Package dimensions			Indoor unit	Outdoor unit
	Height	in. (mm)	9-7/16 (240)	34- 31/32 (888)
	Width	in. (mm)	54-19/32 (1,387)	39- 31/32 (1,015)
	Depth	in. (mm)	31-1/16 (789)	16- 3/32 (409)
Net weight		lbs. (kg)	57 (26)	128 (58)
Shipping weight		lbs. (kg)	68 (31)	148 (67)
Shipping volume		cu.ft. (m^3)	8.9 (0.253)	13.0 (0.369)

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:
Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:
Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

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1-1 Unit Specifications

Ceiling Type

1

MODEL No.				
	Indoor Unit		S-36PT1U6	
	Outdoor Unit		U-36PS1U6	
POWER SOURCE			230 - 208 V / 1 Phase / 60 Hz	
PERFORMANCE			Cooling	
Capacity * [minimum~muximum]		BTU / h	31,200 [9,500~31,200]	
(17˚F)**		BTU / h	—	
Moisture removal (High)		Pints / h	10.0	
Air circulation (H / M / L) 230 V		CFM	1100 / 930 / 750	
External Static Pressure		in. WG	—	
S.E.E.R. / H.S.P.F. (Region 4)		BTU / Wh	15.1	
ELECTRICAL RATINGS				
Voltage rating		V	230	208
Available voltage range		V	VAC 187 - 253	
Max. Running amperes*		A	18.2	20.1
Power input		W	3,840	3,840
(17˚F)**		W	—	
Back-up Heater		kW	—	
Maximum overcurrent protection (Indoor/Outdoor)		A	15 / 30	
FEATURES				
Controls			Microprocessor	
Low ambient control			Built-in 0˚F	
Fan speeds Indoor / Outdoor			3 and Automatic control / Variable	
Wired Remote Controller			CZ-RTC2	
Optional Wireless Remote Controller			CZ-RWSU1U	
Air deflection (Horizontal / Vertical)			— / Automatic (Vertical)	
Air filter			Washable, long life (2,500 hr)	
Drain pump (Drain connection)			— (20A , OD26mm)	
Compressor			Rotary	
Operation sound	Indoor - Hi/Me/Lo	dB - A	42 / 40 / 35	
	Outdoor - Hi	dB - A	52	
Refrigerant control			Electronic Expansion Valve (MOV)	
REFRIGERANT TUBING				
Limit of tubing length		ft. (m)	165 (50)	
Limit of tubing length at shipment		ft. (m)	10~100 (3~30)	
Limit of elevation difference		ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)	
between the two units		ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)	
Refrigerant tube	Narrow tube	in. (mm)	3 / 8 (6.35)	
outer diameter	Wide tube	in. (mm)	5 / 8 (15.88)	
Refrigerant amount at shipment		lbs. (kg)	6.2(2.8) - R410A	
DIMENSIONS & WEIGHT			Indoor unit	Outdoor unit
Unit dimensions	Height	in. (mm)	9-7/16 (240)	30- 23/32 (780)
	Width	in. (mm)	62-1/32 (1,575)	37 (940)
	Depth	in. (mm)	26-3/8 (670)	13- 3/8 (340)
Package dimensions			Indoor unit	Outdoor unit
	Height	in. (mm)	12-15/32 (317)	34- 31/32 (888)
	Width	in. (mm)	66-1/16 (1,678)	39- 31/32 (1,015)
	Depth	in. (mm)	31-1/16 (789)	16- 3/32 (409)
Net weight		lbs. (kg)	84 (38)	143 (65)
Shipping weight		lbs. (kg)	97 (44)	161 (73)
Shipping volume		cu.ft. (m 3)	14.8 (0.420)	13.0 (0.369)

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:
Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:
Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

Ceiling Type

MODEL No.			Indoor Unit	S-42PT1U6	
			Outdoor Unit	U-42PS1U6	
POWER SOURCE				230 - 208 V / 1 Phase / 60 Hz	
PERFORMANCE				Cooling	
Capacity * [minimum~muximum]			BTU / h	39,000 [9,500~39,000]	
	(17˚F)**		BTU / h	—	
Moisture removal (High)			Pints / h	12.6	
Air circulation (H / M / L) 230 V			CFM	1130 / 950 / 775	
External Static Pressure			in. WG	—	
S.E.E.R. / H.S.P.F. (Region 4)			BTU / Wh	15.6	
ELECTRICAL RATINGS					
Voltage rating			V	230	208
Available voltage range			V	VAC 187 - 253	
Max. Running amperes*			A	21.1	23.3
Power input			W	4,140	4,140
	(17˚F)**		W	—	
Back-up Heater			kW	—	
Maximum overcurrent protection (Indoor/Outdoor)			A	15 / 35	
FEATURES					
Controls				Microprocessor	
Low ambient control				Built-in 0˚F	
Fan speeds Indoor / Outdoor				3 and Automatic control / Variable	
Wired Remote Controller				CZ-RTC2	
Optional Wireless Remote Controller				CZ-RWSU1U	
Air deflection (Horizontal / Vertical)				— / Automatic (Vertical)	
Air filter				Washable, long life (2,500 hr)	
Drain pump (Drain connection)				— (20A , OD26mm)	
Compressor				Rotary	
Operation sound		Indoor - Hi/Me/Lo	dB - A	44 / 41 / 37	
		Outdoor - Hi	dB - A	53	
Refrigerant control				Electronic Expansion Valve (MOV)	
REFRIGERANT TUBING					
Limit of tubing length			ft. (m)	165 (50)	
Limit of tubing length at shipment			ft. (m)	10~100 (3~30)	
Limit of elevation difference			ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)	
between the two units			ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)	
Refrigerant tube		Narrow tube	in. (mm)	3 / 8 (6.35)	
outer diameter		Wide tube	in. (mm)	5 / 8 (15.88)	
Refrigerant amount at shipment			lbs. (kg)	7.9 (3.6) - R410A	
DIMENSIONS & WEIGHT				Indoor unit	Outdoor unit
Unit dimensions		Height	in. (mm)	9-7/16 (240)	48-7/16 (1,230)
		Width	in. (mm)	62-1/32 (1,575)	37 (940)
		Depth	in. (mm)	26-3/8 (670)	13- 3/8 (340)
Package dimensions				Indoor unit	Outdoor unit
		Height	in. (mm)	12-15/32 (317)	52-3/8 (1,330)
		Width	in. (mm)	66-1/16 (1,678)	39- 31/32 (1,015)
		Depth	in. (mm)	31-1/16 (789)	16- 3/32 (409)
Net weight			lbs. (kg)	84 (38)	220 (100)
Shipping weight			lbs. (kg)	97 (44)	240 (109)
Shipping volume			cu.ft. (m 3)	14.8 (0.420)	19.5 (0.552)

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:

Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:

Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

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1-1 Unit Specifications

Low Silhouette Duct Type

MODEL No.						
	Indoor Unit		S-26PF1U6			
	Outdoor Unit		U-26PE1U6			
POWER SOURCE			230 - 208 V / 1 Phase / 60 Hz			
PERFORMANCE			Cooling		Heating	
Capacity * [minimum~muximum]		BTU / h	24,000 [9,500~24,000]		28,600 [8,000~28,600]	
(17˚F)**		BTU / h	—		17,100	
Moisture removal (High)		Pints / h	7.7		—	
Air circulation (H / M / L) 230 V		CFM	670 / 530 / 460			
External Static Pressure		in.WG	0.2:at shipment / 0.4:using jumper cable			
S.E.E.R. / H.S.P.F. (Region 4)		BTU / Wh	14.0		9.0	
ELECTRICAL RATINGS						
Voltage rating		V	230	208	230	208
Available voltage range		V	VAC 187 - 253		VAC 187 - 253	
Max. Running amperes*		A	13.6	15.0	12.5	13.8
Power input		W	2,600	2,600	2,400	2,400
(17˚F)**		W	—		1,980	1,980
Back-up Heater		kW	—			
Maximum overcurrent protection (Indoor/Outdoor)		A	15 / 30			
FEATURES						
Controls			Microprocessor			
Low ambient control			Built-in 0˚F			
Fan speeds Indoor / Outdoor			3 and Automatic control / Variable			
Wired Remote Controller			CZ-RTC2			
Optional Wireless Remote Controller			CZ-RWSC1U			
Air deflection (Horizontal / Vertical)			—			
Air filter			—			
Drain pump (Drain connection)			Max.head 2-33/64 in. above drain connection (25A , OD32mm)			
Compressor			Rotary			
Operation sound	Indoor - Hi/Me/Lo	dB - A	34 / 30 / 27			
	Outdoor - Hi	dB - A	49			
Refrigerant control			Electronic Expansion Valve (MOV)			
REFRIGERANT TUBING						
Limit of tubing length		ft. (m)	165 (50)			
Limit of tubing length at shipment		ft. (m)	10~100 (3~30)			
Limit of elevation difference		ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)			
between the two units		ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)			
Refrigerant tube	Narrow tube	in. (mm)	3 / 8 (6.35)			
outer diameter	Wide tube	in. (mm)	5 / 8 (15.88)			
Refrigerant amount at shipment		lbs. (kg)	4.2 (1.9) - R410A			
DIMENSIONS & WEIGHT			Indoor unit		Outdoor unit	
Unit dimensions	Height	in. (mm)	12-7/32 (310)		30- 23/32 (780)	
	Width	in. (mm)	39-3/8 (1,000)		37 (940)	
	Depth	in. (mm)	24-13/16 (630)		13- 3/8 (340)	
Package dimensions			Indoor unit		Outdoor unit	
	Height	in. (mm)	14-3/32 (358)		34- 31/32 (888)	
	Width	in. (mm)	46-7/8 (1,191)		39- 31/32 (1,015)	
	Depth	in. (mm)	30-13/16 (783)		16- 3/32 (409)	
Net weight		lbs. (kg)	71 (32)		128 (58)	
Shipping weight		lbs. (kg)	82 (37)		148 (67)	
Shipping volume		cu.ft. (m 3)	11.8 (0.334)		13.0 (0.369)	

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:
Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:
Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

Low Silhouette Duct Type

MODEL No.				Indoor Unit	S-36PF1U6			
				Outdoor Unit	U-36PE1U6			
POWER SOURCE					230 - 208 V / 1 Phase / 60 Hz			
PERFORMANCE					Cooling		Heating	
Capacity * [minimum~muximum]			BTU / h		31,200 [9,500~31,200]		36,200 [8,000~36,200]	
(17˚F)**			BTU / h		—		20,200	
Moisture removal (High)			Pints / h		10.0		—	
Air circulation (H / M / L) 230 V			CFM		1060 / 920 / 750			
External Static Pressure			in. WG		0.24:at shipment / 0.4:using jumper cable			
S.E.E.R. / H.S.P.F. (Region 4)			BTU / Wh		13.9		8.5	
ELECTRICAL RATINGS								
Voltage rating			V		230	208	230	208
Available voltage range			V		VAC 187 - 253		VAC 187 - 253	
Max. Running amperes*			A		18.6	20.6	15.9	17.6
Power input			W		3,920	3,920	3,340	3,340
(17˚F)**			W		—		2,570	2,570
Back-up Heater			kW		—			
Maximum overcurrent protection (Indoor/Outdoor)			A		15 / 35			
FEATURES								
Controls					Microprocessor			
Low ambient control					Built-in 0˚F			
Fan speeds Indoor / Outdoor					3 and Automatic control / Variable			
Wired Remote Controller					CZ-RTC2			
Optional Wireless Remote Controller					CZ-RWSC1U			
Air deflection (Horizontal / Vertical)					—			
Air filter					—			
Drain pump (Drain connection)					Max.head 2-33/64 in. above drain connection (25A , OD32mm)			
Compressor					Rotary			
Operation sound	Indoor - Hi/Me/Lo		dB - A		38 / 33 / 31			
	Outdoor - Hi		dB - A		52			
Refrigerant control					Electronic Expansion Valve (MOV)			
REFRIGERANT TUBING								
Limit of tubing length			ft. (m)		165 (50)			
Limit of tubing length at shipment			ft. (m)		10~100 (3~30)			
Limit of elevation difference between the two units			ft. (m)		Outdoor unit is higher than indoor unit : 100 (30)			
			ft. (m)		Outdoor unit is lower than indoor unit : 50 (15)			
Refrigerant tube outer diameter	Narrow tube		in. (mm)		3 / 8 (6.35)			
	Wide tube		in. (mm)		5 / 8 (15.88)			
Refrigerant amount at shipment			lbs. (kg)		6.2 (2.8) - R410A			
DIMENSIONS & WEIGHT					Indoor unit		Outdoor unit	
Unit dimensions	Height		in. (mm)		12-7/32 (310)		30- 23/32 (780)	
	Width		in. (mm)		58-9/32 (1,480)		37 (940)	
	Depth		in. (mm)		24-13/16 (630)		13- 3/8 (340)	
Package dimensions					Indoor unit		Outdoor unit	
	Height		in. (mm)		14-3/32 (358)		34- 31/32 (888)	
	Width		in. (mm)		65-25/32 (1,671)		39- 31/32 (1,015)	
	Depth		in. (mm)		30-13/16 (783)		16- 3/32 (409)	
Net weight			lbs. (kg)		104 (47)		143 (65)	
Shipping weight			lbs. (kg)		115 (52)		161 (73)	
Shipping volume			cu.ft. (m 3)		16.5 0.468)		13.0 (0.369)	

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:

Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:

Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

Low Silhouette Duct Type

MODEL No.					
MODEL No.	Indoor Unit			S-26PF1U6	
	Outdoor Unit			U-26PS1U6	
POWER SOURCE				230 - 208 V / 1 Phase / 60 Hz	
PERFORMANCE				Cooling	
Capacity * [minimum~muximum]			BTU / h	24,000 [9,500~24,000]	
(17˚F)**			BTU / h	—	
Moisture removal (High)			Pints / h	7.7	
Air circulation (H / M / L) 230 V			CFM	670 / 530 / 460	
External Static Pressure			in. WG	0.2:at shipment / 0.4:using jumper cable	
S.E.E.R. / H.S.P.F. (Region 4)			BTU / Wh	14.0	
ELECTRICAL RATINGS					
Voltage rating			V	230	208
Available voltage range			V	VAC 187 - 253	
Max. Running amperes*			A	13.6	15.0
Power input			W	2,600	2,600
(17˚F)**			W	—	
Back-up Heater			kW	—	
Maximum overcurrent protection (Indoor/Outdoor)			A	15 / 30	
FEATURES					
Controls				Microprocessor	
Low ambient control				Built-in 0˚F	
Fan speeds Indoor / Outdoor				3 and Automatic control / Variable	
Wired Remote Controller				RCZ-RTC2	
Optional Wireless Remote Controller				CZ-RWSC1U	
Air deflection (Horizontal / Vertical)				—	
Air filter				—	
Drain pump (Drain connection)				Max.head 2-33/64 in. above drain connection (25A , OD32mm)	
Compressor				Rotary	
Operation sound		Indoor - Hi/Me/Lo	dB - A	34 / 30 / 27	
		Outdoor - Hi	dB - A	49	
Refrigerant control				Electronic Expansion Valve (MOV)	
REFRIGERANT TUBING					
Limit of tubing length			ft. (m)	165 (50)	
Limit of tubing length at shipment			ft. (m)	10~100 (3~30)	
Limit of elevation difference between the two units			ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)	
			ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)	
Refrigerant tube outer diameter		Narrow tube	in. (mm)	3 / 8 (6.35)	
		Wide tube	in. (mm)	5 / 8 (15.88)	
Refrigerant amount at shipment			lbs. (kg)	4.2 (1.9) - R410A	
DIMENSIONS & WEIGHT				Indoor unit	Outdoor unit
Unit dimensions		Height	in. (mm)	12-7/32 (310)	30- 23/32 (780)
		Width	in. (mm)	39-3/8 (1,000)	37 (940)
		Depth	in. (mm)	24-13/16 (630)	13- 3/8 (340)
Package dimensions				Indoor unit	Outdoor unit
		Height	in. (mm)	14-3/32 (358)	34- 31/32 (888)
		Width	in. (mm)	46-7/8 (1,191)	39- 31/32 (1,015)
		Depth	in. (mm)	30-13/16 (783)	16- 3/32 (409)
Net weight			lbs. (kg)	71 (32)	128 (58)
Shipping weight			lbs. (kg)	82 (37)	148 (67)
Shipping volume			cu.ft. (m 3)	11.8 (0.334)	13.0 (0.369)

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:
Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:
Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-1 Unit Specifications

Low Silhouette Duct Type

MODEL No.	Indoor Unit		S-36PF1U6	
	Outdoor Unit		U-36PS1U6	
POWER SOURCE			230 - 208 V / 1 Phase / 60 Hz	
PERFORMANCE			Cooling	
Capacity * [minimum~muximum]		BTU / h	31,200 [9,500~31,200]	
(17˚F)**		BTU / h	—	
Moisture removal (High)		Pints / h	10.0	
Air circulation (H / M / L) 230 V		CFM	1060 / 920/ 750	
External Static Pressure		in. WG	0.24:at shipment / 0.4:using jumper cable	
S.E.E.R. / H.S.P.F. (Region 4)		BTU / Wh	13.9	
ELECTRICAL RATINGS				
Voltage rating		V	230	208
Available voltage range		V	VAC 187 - 253	
Max. Running amperes*		A	18.6	20.6
Power input		W	3,920	3,920
(17˚F)**		W	—	
Back-up Heater		kW	—	
Maximum overcurrent protection (Indoor/Outdoor)		A	15 / 30	
FEATURES				
Controls Microprocessor			Microprocessor	
Low ambient control			Built-in 0˚F	
Fan speeds Indoor / Outdoor			3 and Automatic control / Variable	
Wired Remote Controller			CZ-RTC2	
Optional Wireless Remote Controller			CZ-RWSC1U	
Air deflection (Horizontal / Vertical)			—	
Air filter			—	
Drain pump (Drain connection)			Max.head 2-33/64 in. above drain connection (25A , OD32mm)	
Compressor			Rotary	
Operation sound	Indoor - Hi/Me/Lo	dB - A	38 / 33 / 31	
	Outdoor - Hi	dB - A	52	
Refrigerant control			Electronic Expansion Valve (MOV)	
REFRIGERANT TUBING				
Limit of tubing length		ft. (m)	165 (50)	
Limit of tubing length at shipment		ft. (m)	10~100 (3~30)	
Limit of elevation difference		ft. (m)	Outdoor unit is higher than indoor unit : 100 (30)	
between the two units		ft. (m)	Outdoor unit is lower than indoor unit : 50 (15)	
Refrigerant tube	Narrow tube	in. (mm)	3 / 8 (6.35)	
outer diameter	Wide tube	in. (mm)	5 / 8 (15.88)	
Refrigerant amount at shipment		lbs. (kg)	6.2 (2.8) - R410A	
DIMENSIONS & WEIGHT			Indoor unit	Outdoor unit
Unit dimensions	Height	in. (mm)	12-7/32 (310)	30- 23/32 (780)
	Width	in. (mm)	58-9/32 (1,480)	37 (940)
	Depth	in. (mm)	24-13/16 (630)	13- 3/8 (340)
Package dimensions			Indoor unit	Outdoor unit
	Height	in. (mm)	14-3/32 (358)	34- 31/32 (888)
	Width	in. (mm)	65-25/32 (1,671)	39- 31/32 (1,015)
	Depth	in. (mm)	30-13/16 (783)	16- 3/32 (409)
Net weight		lbs. (kg)	104 (47)	143 (65)
Shipping weight		lbs. (kg)	115 (52)	161 (73)
Shipping volume		cu.ft. (m 3)	16.5 0.468)	13.0 (0.369)

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Cooling:

Rating conditions (*) : Room temperature 80 °F DB / 67 °F WB, Ambient temperature 95 °F DB / 75 °F WB

Heating:

Rating conditions (*) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 47 °F DB / 43 °F WB
Low temp conditions (**) : Room temperature 70 °F DB / 60 °F WB, Ambient temperature 17 °F DB / 15 °F WB

1-2 Major Component Specifications

(A) Indoor Unit

MODEL No.		**S-26PU1U6**
Source		**230 - 208 VAC / 1 phase / 60 Hz**
Remote controller (Supplied / Optional)		Wired / Wireless (See Unit Specifications)
Controller P. C. B Ass'y		CR-26PU1U6-P
Control circuit fuse		250 VAC, 5 A
Fan (Number … diameter)	in. (mm)	Turbo (1…17-7/16 (443))
Fan motor		
Model		SFG6X - 41D6P
Source		230 - 208 V / 1 phase / 60 Hz
No. of pole … r.p.m. (230 V, High)	rpm	6 … 464
Nominal output	W	40
Coil resistance (Ambient temperature 68 °F)	Ω	BRW - WHT : 170.3 , ORG - YEL : 43.2 WHT - VLT : 18.1 , WHT - PNK : 83.5 VLT - ORG : 43.2 , YEL - BLK : 60.2
Safety device		
Operating temperature	Open °F	266 ± 14.4
	Close °F	174.2 ± 27
Run capacitor	VAC, µF	440 V , 4.5 µF
Heat exchanger		
Coil		Aluminum plate fin / Copper tube
Rows … Fins per inch		2 … 14.9
Face area	$ft.^2$ (m^2)	3.69 (0.343)
Panel		
Model No.		CZ-24KPU1U
Auto louver motor		MT8 - 3C
Auto louver motor … Rated	V, W, rpm	240 VAC , 3 W , 3 rpm
Coil resistance (Ambient temperature 77 °F)	Ω	16.430 Ω ± 8 %

DATA SUBJECT TO CHANGE WITHOUT NOTICE

1-2 Major Component Specifications

(A) Indoor Unit

MODEL No.		**S-36PU1U6**
Source		**230 - 208 VAC / 1 phase / 60 Hz**
Remote controller (Supplied / Optional)		Wired / Wireless (See Unit Specifications)
Controller P. C. B Ass'y		CR-26PU1U6-P
Control circuit fuse		250 VAC, 5 A
Fan (Number … diameter)	in. (mm)	Turbo (1…17-7/16 (443))
Fan motor		
Model		SFG6X - 81A6P
Source		230 - 208 V / 1 phase / 60 Hz
No. of pole … r.p.m. (230 V, High)	rpm	6 … 467
Nominal output	W	60
Coil resistance (Ambient temperature 68 °F)	Ω	BRW - WHT : 75.1 , ORG - YEL : 27.4 WHT - VLT : 6.7 , VLT - PNK : 42.7 VLT - ORG : 20.6 , YEL - BLK : 58.0
Safety device		
Operating temperature	Open °F	266 ± 14.4
	Close °F	174.2 ± 27
Run capacitor	VAC, µF	440 V , 6 µF
Heat exchanger		
Coil		Aluminum plate fin / Copper tube
Rows … Fins per inch		2 … 14.9
Face area	ft.^{2} (m^2)	8.20 (0.762)
Panel		
Model No.		CZ-36KPU1U
Auto louver motor		MT8 - 3C
Auto louver motor … Rated	V, W, rpm	240 VAC , 3 W , 3 rpm
Coil resistance (Ambient temperature 77 °F)	Ω	16.430 Ω ± 8 %

DATA SUBJECT TO CHANGE WITHOUT NOTICE

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1-2 Major Component Specifications

(A) Indoor Unit

MODEL No.		**S-42PU1U6**
Source		**230 - 208 VAC / 1 phase / 60 Hz**
Remote controller (Supplied / Optional)		Wired / Wireless (See Unit Specifications)
Controller P. C. B Ass'y		CR-26PU1U6-P
Control circuit fuse		250 VAC, 5 A
Fan (Number … diameter)	in. (mm)	Turbo (1…17-7/16 (443))
Fan motor		
Model		SFG6X - 81A6P
Source		230 - 208 V / 1 phase / 60 Hz
No. of pole … r.p.m. (230 V, High)	rpm	6 … 506
Nominal output	W	60
Coil resistance (Ambient temperature 68 °F)	Ω	BRW - WHT : 75.1 , ORG - YEL : 27.4 WHT - VLT : 6.7 , VLT - PNK : 42.7 VLT - ORG : 20.6 , YEL - BLK : 58.0
Safety device		
Operating temperature	Open °F	266 ± 14.4
	Close °F	174.2 ± 27
Run capacitor	VAC, µF	440 V , 6 µF
Heat exchanger		
Coil		Aluminum plate fin / Copper tube
Rows … Fins per inch		2 … 14.9
Face area	$ft.^2$ (m^2)	8.20 (0.762)
Panel		
Model No.		CZ-36KPU1U
Auto louver motor		MT8 - 3C
Auto louver motor … Rated	V, W, rpm	240 VAC , 3 W , 3 rpm
Coil resistance (Ambient temperature 77 °F)	Ω	16.430 Ω ± 8 %

DATA SUBJECT TO CHANGE WITHOUT NOTICE

1-2 Major Component Specifications

(A) Indoor Unit

MODEL No.			S-26PK1U6
Source			**230 - 208 V / 1 phase / 60 Hz**
Remote controller (Optional / Supplied)			Wired / Wireless (See Unit Specifications)
Controller P. C. B Ass'y			CB-KR254GXH56A
	Control circuit fuse		250 V, 5 A
Fan			Cross-flow
	Number ... Dia. and length	in. (mm)	1 ... O.D. 4-1/3 (110), L39 (990)
Fan motor			
	Model		KFT4Q - 31A6P - C
	Source		230 - 208 V / 1 phase / 60 Hz
	No. of pole ... r.p.m. (230 V, High)	rpm	4 ... 1,224
	Nominal output	W	28.8
	Coil resistance (Ambient temperature 68 °F)	Ω	BRW - WHT : 260.7 , ORG - YEL : 23.76 WHT - VLT : 42.62 , YEL - PNK : 115.9 VLT - ORG : 30.36 ,
	Safety device		
	Operating temperature	Open °F	266 ± 14.4
		Close °F	174.2 ± 26
	Run capacitor	VAC, µF	440 V , 1.8 µF
Heat exchanger			
	Coil		Aluminum plate fin / Copper tube
	Rows ... Fins per inch		2 ... 24.1
	Face area	ft.² (m²)	2.57 (0.24)

DATA SUBJECT TO CHANGE WITHOUT NOTICE

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1-2 Major Component Specifications

(A) Indoor Unit

MODEL No.		**S-26PT1U6**
Source		**230 - 208 V / 1 phase / 60 Hz**
Remote controller (Supplied / Optional)		Wired / Wireless (See Unit Specification)
Controller P. C. B Ass'y		CR - TH2672
Control circuit fuse		250 V, 5 A
Fan (Number … diameter)	in. (mm)	Centrifugal (4 ... 5-1/8(130))
Fan motor		
Model		SR4X - 51A6P
Source		230 - 208 V / 1 phase / 60 Hz
No. of pole … r.p.m. (230 V, High)	rpm	1,179
Nominal output	W	31
Coil resistance (Ambient temperature 68 °F)	Ω	BRW - WHT : 111.0 , ORG - YEL : 16.7 WHT - VLT : 35.4 , BLK - PNK : 23.9 VLT - ORG : 13.4 , YEL - BLK : 136.6
Safety device		
Operating temperature	Open °F	266 ± 14.4
	Close °F	174.2 ± 27
Run capacitor	VAC, µF	440 V , 1.5 µF
Heat exchanger		
Coil		Aluminum plate fin / Copper tube
Rows … Fins per inch		3 … 14.9
Face area	ft.² (m²)	1.81 (0.168)
Auto louver motor		
Model No.		MT8 - 3C
Auto louver motor … Rated	V, W, rpm	240 VAC , 3 W , 3 rpm
Coil resistance (Ambient temperature 77 °F)	Ω	16,430 Ω ± 8 %

DATA SUBJECT TO CHANGE WITHOUT NOTICE

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1-2 Major Component Specifications

(A) Indoor Unit

MODEL No.			**S-36PT1U6**
Source			**230 - 208 V / 1 phase / 60 Hz**
Remote controller (Supplied / Optional)			Wired / Wireless (See Unit Specification)
Controller P. C. B Ass'y			CR - TH2672
Control circuit fuse			250 V, 5 A
Fan (Number … diameter)		in. (mm)	Centrifugal (4 ... 5-29/32(150))
Fan motor			
	Model		KFG4X - 101C6P
	Source		230 - 208 V / 1 phase / 60 Hz
	No. of pole … r.p.m. (230 V, High)	rpm	4 ... 1,040
	Nominal output	W	100
	Coil resistance (Ambient temperature 68 °F)	Ω	BRW - WHT : 61.05 , ORG - YEL : 13.23 WHT - VLT : 9.955 , YEL - BLK : 19.25 VLT - ORG : 9.576 , BLK - PNK : 10.81
	Safety device		
	Operating temperature	Open °F	266 ± 14.4
		Close °F	174.2 ± 27
	Run capacitor	VAC, µF	440 V , 5 µF
Heat exchanger			
	Coil		Aluminum plate fin / Copper tube
	Rows … Fins per inch		3 … 14.9
	Face area	ft.² (m²)	3.51 (0.326)
Auto louver motor			
	Model No.		MT8 - 3C
	Auto louver motor … Rated	V, W, rpm	240 VAC , 3 W , 3 rpm
	Coil resistance (Ambient temperature 77 °F)	Ω	16,430 Ω ± 8 %

DATA SUBJECT TO CHANGE WITHOUT NOTICE

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1-2 Major Component Specifications

(A) Indoor Unit

MODEL No.		**S-42PT1U6**
Source		**230 - 208 V / 1 phase / 60 Hz**
Remote controller (Supplied / Optional)		Wired / Wireless (See Unit Specification)
Controller P. C. B Ass'y		CR - TH2672
Control circuit fuse		250 V, 5 A
Fan (Number … diameter)	in. (mm)	Centrifugal (4 ... 5-29/32(150))
Fan motor		
Model		KFG4X - 101C6P
Source		230 - 208 V / 1 phase / 60 Hz
No. of pole … r.p.m. (230 V, High)	rpm	4 ... 1,099
Nominal output	W	100
Coil resistance (Ambient temperature 68 °F)	Ω	BRW - WHT : 61.05 , ORG - YEL : 13.23 WHT - VLT : 9.955 , YEL - BLK : 19.25 VLT - ORG : 9.576 , BLK - PNK : 10.81
Safety device		
Operating temperature	Open °F	266 ± 14.4
	Close °F	174.2 ± 27
Run capacitor	VAC, μF	440 V , 5 μF
Heat exchanger		
Coil		Aluminum plate fin / Copper tube
Rows … Fins per inch		3 … 14.9
Face area	ft.² (m²)	3.51 (0.326)
Auto louver motor		
Model No.		MT8 - 3C
Auto louver motor … Rated	V, W, rpm	240 VAC , 3 W , 3 rpm
Coil resistance (Ambient temperature 77 °F)	Ω	16,430 Ω ± 8 %

DATA SUBJECT TO CHANGE WITHOUT NOTICE

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1-2 Major Component Specifications

(A) Indoor Unit

MODEL No.			**S-26PF1U6**
Source			**230 - 208 V / 1 phase / 60 Hz**
Remote controller (Supplied / Optional)			Wired / Wireless (See Unit Specification)
Controller P. C. B Ass'y			CR - TH2672
Control circuit fuse			250 V, 5 A
Fan (Number … diameter)		in. (mm)	Centrifugal (4 ... 5-29/32(150))
Fan motor			
Model			KFG4X - 71B6P
Source			230 - 208 V / 1 phase / 60 Hz
No. of pole … r.p.m. (230 V, High)		rpm	4 ... 920
Nominal output		W	100
Coil resistance (Ambient temperature 68 °F)		Ω	BRW - WHT : 74.7 , ORG - YEL : 9.59 WHT - VLT : 19.1 , YEL - BLK : 10.52 VLT - ORG : 10.5 , BLK - PNK : 21.72
Safety device			
	Operating temperature	Open °F	266 ± 14.4
		Close °F	174.2 ± 27
Run capacitor		VAC, µF	440 V , 5 µF
Heat exchanger			
Coil			Aluminum plate fin / Copper tube
Rows … Fins per inch			3 … 14.9
Face area		ft.² (m²)	2.03 (0.189)

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1-2 Major Component Specifications

(A) Indoor Unit

MODEL No.		S-36PF1U6
Source		**230 - 208 V / 1 phase / 60 Hz**
Remote controller (Supplied / Optional)		Wired / Wireless (See Unit Specification)
Controller P. C. B Ass'y		CR - TH2672
Control circuit fuse		250 V, 5 A
Fan (Number … diameter)	in. (mm)	Centrifugal (4 ... 5-29/32(150))
Fan motor		
Model		KFC4X-141A6P
Source		230 - 208 V / 1 phase / 60 Hz
No. of pole ... r.p.m. (230 V, High)	rpm	4 ... 940
Nominal output	W	100
Coil resistance (Ambient temperature 68 °F)	Ω	BRW - WHT : 39.9 , ORG - YEL : 9.37 WHT - VLT : 6.91 , YEL - BLK : 8.86 VLT - ORG : 11.4 , BLK - PNK : 14.3
Safety device		
Operating temperature	Open °F	266 ± 14.4
	Close °F	174.2 ± 27
Run capacitor	VAC, μF	440 V , 5 μF
Heat exchanger		
Coil		Aluminum plate fin / Copper tube
Rows ... Fins per inch		3 ... 12.7
Face area	ft.² (m²)	3.32 (0.308)

DATA SUBJECT TO CHANGE WITHOUT NOTICE

1-2 Major Component Specifications

(B) Outdoor Unit

MODEL No.			U-26PE1U6
Source			208 - 230 V / 1 phase / 60 Hz
Controller P.C.B. Ass'y			CR-CH4872R (Microprocessor)
Control circuit fuse (on the P.C.B.“FIL-CH4872R”)			280 V, 25 A
Compressor			
Model....number			C-7RVN153H0U
Nominal output		W	1,500
Compressor oil		cc	650
Coil resistance (Ambient temperature 25 °C)		Ω	C – R : 0.665 R – S : 0.665 C – S : 0.665
Safety control			
Microprocessor safety devices			Compressor Discharge Gas temperature control Comressor current detection circuit
Overload protector (Operating temperature)	Open	°F (°C)	230 (110)
	Close	°F (°C)	203 (95)
Crank case heater			–
Refrigerant amount at shipment		lbs. (kg)	R410A - 4.2 (1.9)
High pressure switch			–
Set pressure	OFF	PSi	600
	ON	PSi	456
Fan			Propeller
Number.. diameter		mm	1.... ø460
Air circulation (Hi)		m^3/h	3,000
Fan speeds (Max.)			~800 rpm (Inverter drive control)
Fan motor			
Model No.			DAJ12-95B61A-CR
Source			DC340 V / 3 phase
No. of pole			8
Nominal output		W	90
Coil resistance (Ambient temperature 20 °C)		Ω	RED – WHT : 30.5 WHT – BLK : 30.5 BLK – RED : 30.5
Safety device			
Operating temperature	Open	°F (°C)	284 (140)
	Close	°F (°C)	–
Run capacitor	VAC,	µF	–
Heat exchanger			
Coil			Aluminium plate fin / Copper tube
Rows….fin pitch		mm	1….1.6
Face area		m^2	0.675

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1-2 Major Component Specifications

(B) Outdoor Unit

MODEL No.			U-36PE1U6
Source			208 - 230 V / 1 phase / 60 Hz
Controller P.C.B. Ass'y			CR-CH4872R (Microprocessor)
Control circuit fuse (on the P.C.B.“FIL-CH4872R”)			280 V, 25 A
Compressor			
Model....number			C-7RVN153H0U
Nominal output		W	1,500
Compressor oil		cc	650
Coil resistance (Ambient temperature 25 °C)		Ω	C – R : 0.665 R – S : 0.665 C – S : 0.665
Safety control			
Microprocessor safety devices			Compressor Discharge Gas temperature control Comressor current detection circuit
Overload protector (Operating temperature)	Open	°F (°C)	230 (110)
	Close	°F (°C)	203 (95)
Crank case heater			–
Refrigerant amount at shipment		lbs. (kg)	R410A - 6.2 (2.8)
High pressure switch			–
Set pressure	OFF	PSi	600
	ON	PSi	456
Fan			Propeller
Number.. diameter		mm	1.... ø460
Air circulation (Hi)		m^3/h	3,300
Fan speeds (Max.)			~830 rpm (Inverter drive control)
Fan motor			
Model No.			DAJ12-95B61A-CR
Source			DC340 V / 3 phase
No. of pole			8
Nominal output		W	90
Coil resistance (Ambient temperature 20 °C)		Ω	RED – WHT : 30.5 WHT – BLK : 30.5 BLK – RED : 30.5
Safety device			
Operating temperature	Open	°F (°C)	284 (140)
	Close	°F (°C)	–
Run capacitor	VAC,	μF	230V, 40 μF
Heat exchanger			
Coil			Aluminium plate fin / Copper tube
Rows....fin pitch		mm	2....1.8
Face area		m^2	0.675

1-2 Major Component Specifications

(B) Outdoor Unit

MODEL No.			P-42PE1U6
Source			208 - 230 V / 1 phase / 60 Hz
Controller P.C.B. Ass'y			CR-CH4872R (Microprocessor)
Control circuit fuse (on the P.C.B.“FIL-CH4872R”)			280 V, 25 A
Compressor			
Model....number			C-9RVN273H0W
Nominal output		W	2,700
Compressor oil		cc	1,900
Coil resistance (Ambient temperature 25 °C)		Ω	C – R : 0.169 R – S :0.169 C – S :0.169
Safety control			
Microprocessor safety devices			Compressor Discharge Gas temperature control Comressor current detection circuit
Overload protector (Operating temperature)	Open	°F (°C)	230 (110)
	Close	°F (°C)	203 (95)
Crank case heater			–
Refrigerant amount at shipment		lbs. (kg)	R410A - 7.9 (3.6)
High pressure switch			–
Set pressure	OFF	PSi	600
	ON	PSi	456
Fan			Propeller
Number.. diameter		mm	2.... ø460
Air circulation (Hi)		m^3/h	6,000
Fan speeds (Max.)			~830 rpm (Inverter drive control)
Fan motor			
Model No.			DAJ12-95B61B-CR
Source			DC340 V / 3 phase
No. of pole			8
Nominal output		W	90
Coil resistance (Ambient temperature 20 °C)		Ω	RED – WHT : 30.5 WHT – BLK : 30.5 BLK – RED : 30.5
Safety device			
Operating temperature	Open	°F (°C)	284 (140)
	Close	°F (°C)	–
Run capacitor	VAC,	μF	230V, 60μF
Heat exchanger			
Coil			Aluminium plate fin / Copper tube
Rows….fin pitch		mm	2….2.0
Face area		m^2	1.080

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1-2 Major Component Specifications

(B) Outdoor Unit

MODEL No.			U-26PS1U6
Source			208 - 230 V / 1 phase / 60 Hz
Controller P.C.B. Ass'y			CR-CH4872R (Microprocessor)
Control circuit fuse (on the P.C.B.“FIL-CH4872R”)			280 V, 25 A
Compressor			
Model....number			C-7RVN153H0U
Nominal output		W	1,500
Compressor oil		cc	650
Coil resistance (Ambient temperature 25 °C)		Ω	C – R : 0.665 R – S : 0.665 C – S : 0.665
Safety control			
Microprocessor safety devices			Compressor Discharge Gas temperature control Comressor current detection circuit
Overload protector (Operating temperature)	Open	°F (°C)	230 (110)
	Close	°F (°C)	203 (95)
Crank case heater			–
Refrigerant amount at shipment		lbs. (kg)	R410A - 4.2 (1.9)
High pressure switch			–
Set pressure	OFF	PSi	600
	ON	PSi	456
Fan			Propeller
Number.. diameter		mm	1.... ø460
Air circulation (Hi)		m^3/h	3,000
Fan speeds (Max.)			~800 rpm (Inverter drive control)
Fan motor			
Model No.			DAJ12-95B61A-CR
Source			DC340 V / 3 phase
No. of pole			8
Nominal output		W	90
Coil resistance (Ambient temperature 20 °C)		Ω	RED – WHT : 30.5 WHT – BLK : 30.5 BLK – RED : 30.5
Safety device			
Operating temperature	Open	°F (°C)	284 (140)
	Close	°F (°C)	–
Run capacitor	VAC,	μF	–
Heat exchanger			
Coil			Aluminium plate fin / Copper tube
Rows….fin pitch		mm	1….1.6
Face area		m^2	0.675

1-2 Major Component Specifications

(B) Outdoor Unit

MODEL No.			U-36PS1U6
Source			208 - 230 V / 1 phase / 60 Hz
Controller P.C.B. Ass'y			CR-CH4872R (Microprocessor)
Control circuit fuse (on the P.C.B.“FIL-CH4872R”)			280 V, 25 A
Compressor			
Model....number			C-7RVN153H0U
Nominal output		W	1,500
Compressor oil		cc	650
Coil resistance (Ambient temperature 25 °C)		Ω	C – R : 0.665 R – S : 0.665 C – S : 0.665
Safety control			
Microprocessor safety devices			Compressor Discharge Gas temperature control Comressor current detection circuit
Overload protector (Operating temperature)	Open	°F (°C)	230 (110)
	Close	°F (°C)	203 (95)
Crank case heater			–
Refrigerant amount at shipment		lbs. (kg)	R410A - 6.2 (2.8)
High pressure switch			–
Set pressure	OFF	PSi	600
	ON	PSi	456
Fan			Propeller
Number.. diameter		mm	1.... ø460
Air circulation (Hi)		m^3/h	3,300
Fan speeds (Max.)			~830 rpm (Inverter drive control)
Fan motor			
Model No.			DAJ12-95B61A-CR
Source			DC340 V / 3 phase
No. of pole			8
Nominal output		W	90
Coil resistance (Ambient temperature 20 °C)		Ω	RED – WHT : 30.5 WHT – BLK : 30.5 BLK – RED : 30.5
Safety device			
Operating temperature	Open	°F (°C)	284 (140)
	Close	°F (°C)	–
Run capacitor	VAC,	μF	230V, 40μF
Heat exchanger			
Coil			Aluminium plate fin / Copper tube
Rows….fin pitch		mm	2….1.8
Face area		m^2	0.675

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1-2 Major Component Specifications

(B) Outdoor Unit

MODEL No.				U-42PS1U6
Source				208 - 230 V / 1 phase / 60 Hz
Controller P.C.B. Ass'y				CR-CH4872R (Microprocessor)
Control circuit fuse (on the P.C.B.“FIL-CH4872R”)				280 V, 25 A
Compressor				
Model....number				C-9RVN273H0W
Nominal output			W	2,700
Compressor oil			cc	1,900
Coil resistance (Ambient temperature 25 °C)			Ω	C – R : 0.169 R – S :0.169 C – S :0.169
Safety control				
Microprocessor safety devices				Compressor Discharge Gas temperature control Comressor current detection circuit
Overload protector (Operating temperature)	Open	°F (°C)		230 (110)
	Close	°F (°C)		203 (95)
Crank case heater				–
Refrigerant amount at shipment			lbs. (kg)	R410A - 7.9 (3.6)
High pressure switch				–
Set pressure	OFF	PSi		600
	ON	PSi		456
Fan				Propeller
Number.. diameter			mm	2.... ø460
Air circulation (Hi)			m^3/h	6,000
Fan speeds (Max.)				~830 rpm (Inverter drive control)
Fan motor				
Model No.				DAJ12-95B61A-CR
Source				DC340 V / 3 phase
No. of pole				8
Nominal output			W	90
Coil resistance (Ambient temperature 20 °C)			Ω	RED – WHT : 30.5 WHT – BLK : 30.5 BLK – RED : 30.5
Safety device				
Operating temperature	Open	°F (°C)		284 (140)
	Close	°F (°C)		–
Run capacitor	VAC,	μF		230V, 60μF
Heat exchanger				
Coil				Aluminium plate fin / Copper tube
Rows….fin pitch			mm	2….2.0
Face area			m^2	1.080

1-3 Other Component Specifications

Outdoor Unit

MODEL No.		U-26PE1U6, U-26PS1U6
Thermistor (Coil sensor) : TH2 to 5		
Coil resistance	kΩ	14 °F : 23.7 , 50 °F : 9.7 23 °F : 18.8 , 68 °F : 6.5 32 °F : 15.0 , 86 °F : 4.4 41 °F : 12.1 , 104 °F : 3.1 113 °F : 2.6
Thermistor (Comp. discharge gas sensor) : TH6		
Coil resistance	kΩ	140 °F : 13.8 , 194 °F : 5.1 158 °F : 9.7 , 212 °F : 3.8 167 °F : 8.2 , 230 °F : 2.8 176 °F : 7.0 , 248 °F : 2.2 185 °F : 5.9 , 266 °F : 1.7
Solenoid coil or 4 way valve		
4 way valve		STF-02U2G
Solenoid coil		STF - 01AQ503UA1 (Heat pump model only)
Electric expansion valve (MOV)		
Valve		UKV - 18D13
Coil		UKV - U013E

DATA SUBJECT TO CHANGE WITHOUT NOTICE

1-3 Other Component Specifications

Outdoor Unit

MODEL No.		U-36PE1U6, U-36PS1U6
Thermistor (Coil sensor) : TH2 to 5		
Coil resistance	kΩ	14 °F : 23.7 , 50 °F : 9.7 23 °F : 18.8 , 68 °F : 6.5 32 °F : 15.0 , 86 °F : 4.4 41 °F : 12.1 , 104 °F : 3.1 113 °F : 2.6
Thermistor (Comp. discharge gas sensor) : TH6		
Coil resistance	kΩ	140 °F : 13.8 , 194 °F : 5.1 158 °F : 9.7 , 212 °F : 3.8 167 °F : 8.2 , 230 °F : 2.8 176 °F : 7.0 , 248 °F : 2.2 185 °F : 5.9 , 266 °F : 1.7
Solenoid coil or 4 way valve		
4 way valve		STF - 02U2G
Solenoid coil		STF - 01AQ503UA1 (Heat pump models only)
Electric expansion valve (MOV)		
Valve		UKV - 18D13
Coil		UKV - U013E

DATA SUBJECT TO CHANGE WITHOUT NOTICE

1

1-3 Other Component Specifications

Outdoor Unit

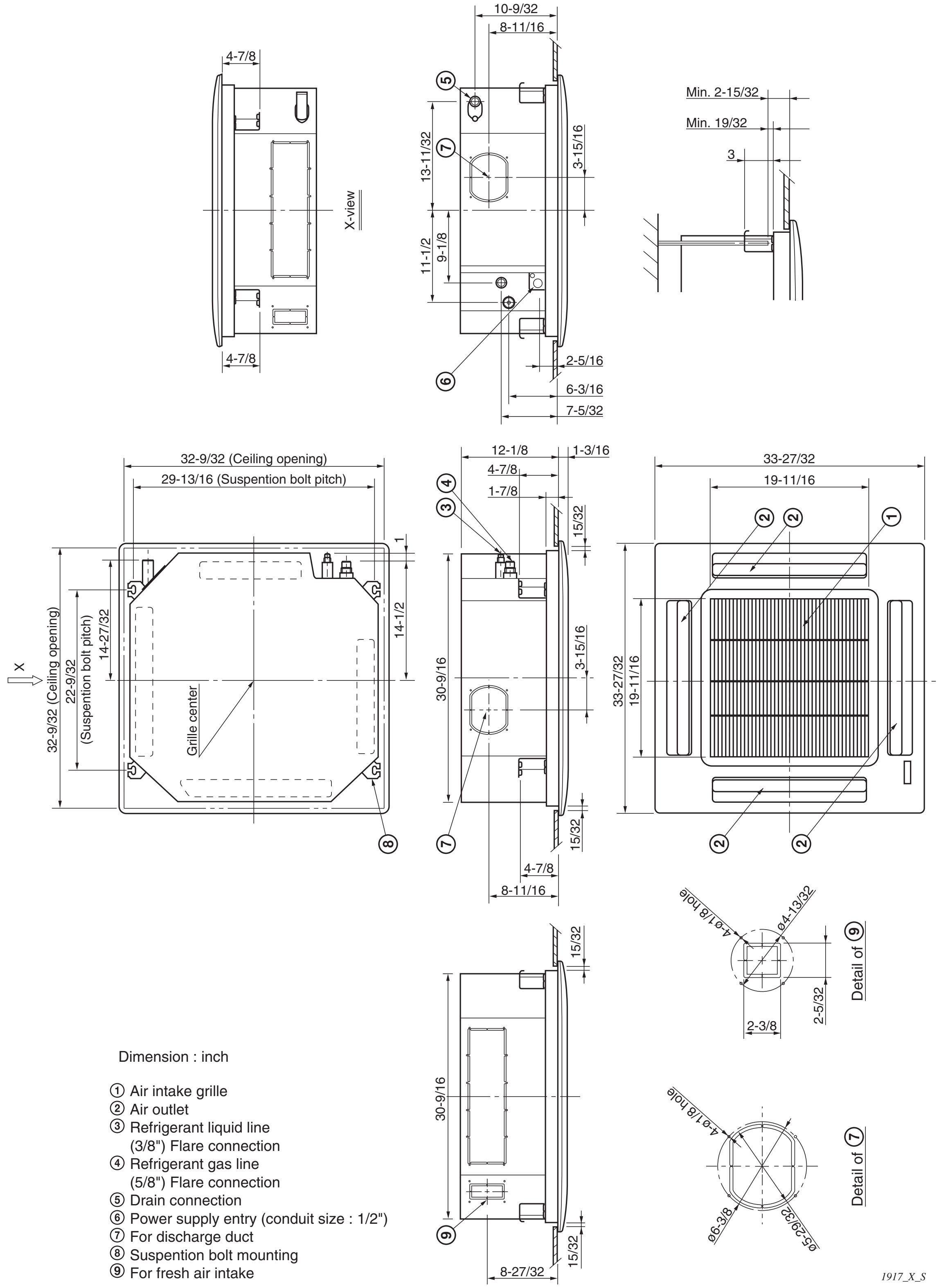
MODEL No.		U-42PE1U6, U-42PS1U6
Thermistor (Coil sensor) : TH2 to 5		
Coil resistance	kΩ	14 °F : 23.7 , 50 °F : 9.7 23 °F : 18.8 , 68 °F : 6.5 32 °F : 15.0 , 86 °F : 4.4 41 °F : 12.1 , 104 °F : 3.1 113 °F : 2.6
Thermistor (Comp. discharge gas sensor) : TH6		
Coil resistance	kΩ	140 °F : 13.8 , 194 °F : 5.1 158 °F : 9.7 , 212 °F : 3.8 167 °F : 8.2 , 230 °F : 2.8 176 °F : 7.0 , 248 °F : 2.2 185 °F : 5.9 , 266 °F : 1.7
Solenoid coil or 4 way valve		
4 way valve		STF - 04U1G
Solenoid coil		STF - 01AQ503UA1 (Heat pump model only)
Electric expansion valve (MOV)		
Valve		UKV - 25D
Coil		UKV - U013E

DATA SUBJECT TO CHANGE WITHOUT NOTICE

1

1-4 Dimensional data

Indoor unit : 4-Way Cassette Type
26 Type

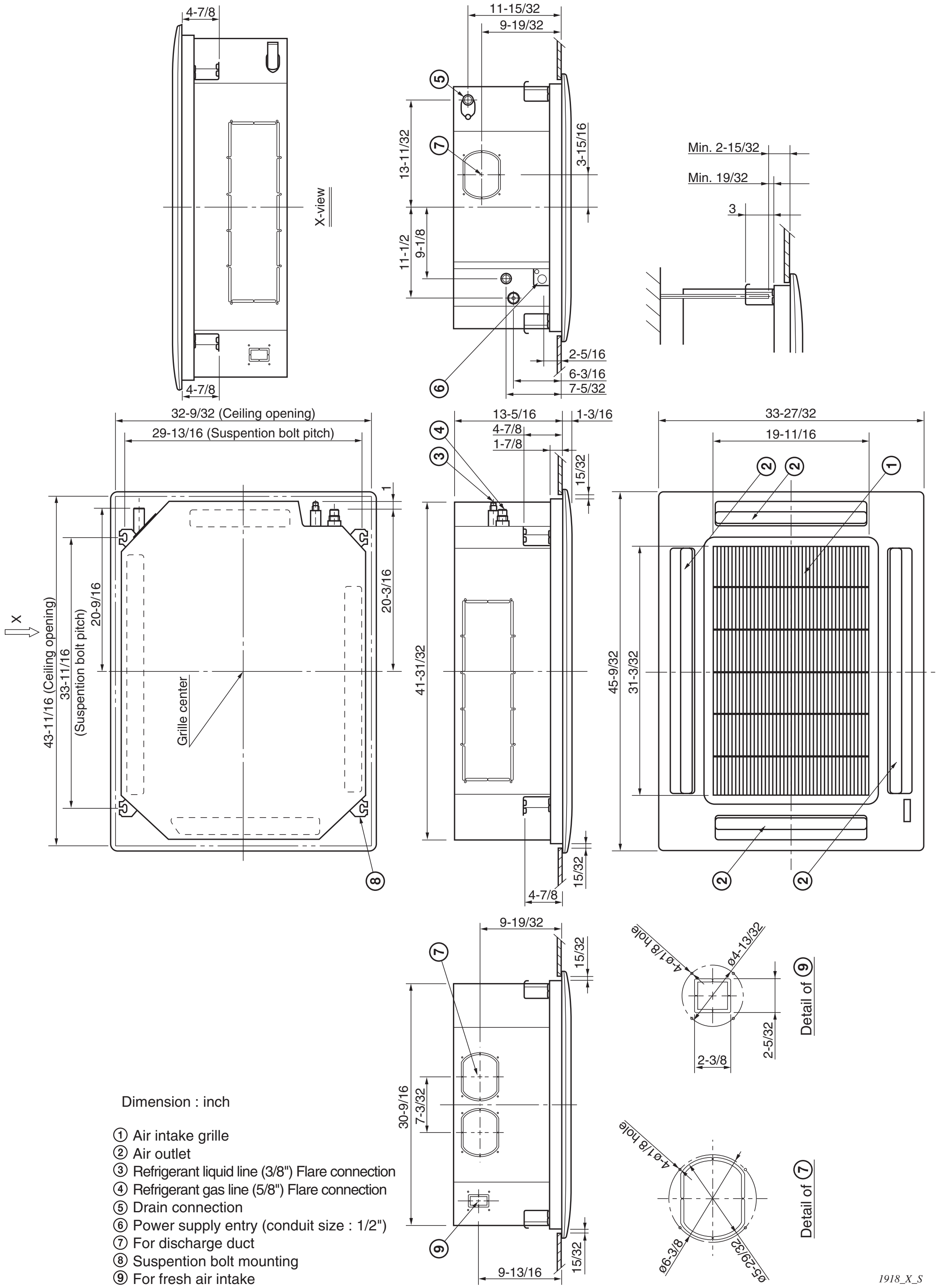


Dimension : inch

① Air intake grille
② Air outlet
③ Refrigerant liquid line
(3/8") Flare connection
④ Refrigerant gas line
(5/8") Flare connection
⑤ Drain connection
⑥ Power supply entry (conduit size : 1/2")
⑦ For discharge duct
⑧ Suspention bolt mounting
⑨ For fresh air intake

1-4 Dimensional data

Indoor unit : 4-Way Cassette Type
36, 42Type

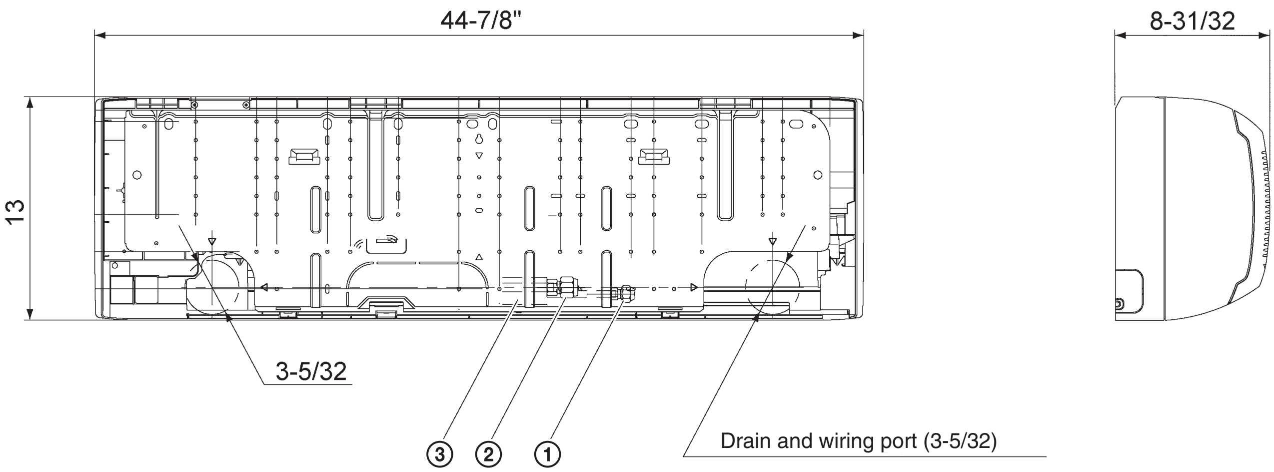


Dimension : inch

① Air intake grille
② Air outlet
③ Refrigerant liquid line (3/8") Flare connection
④ Refrigerant gas line (5/8") Flare connection
⑤ Drain connection
⑥ Power supply entry (conduit size : 1/2")
⑦ For discharge duct
⑧ Suspention bolt mounting
⑨ For fresh air intake

1-4 Dimensional data

Indoor unit : Wall Mounted Type

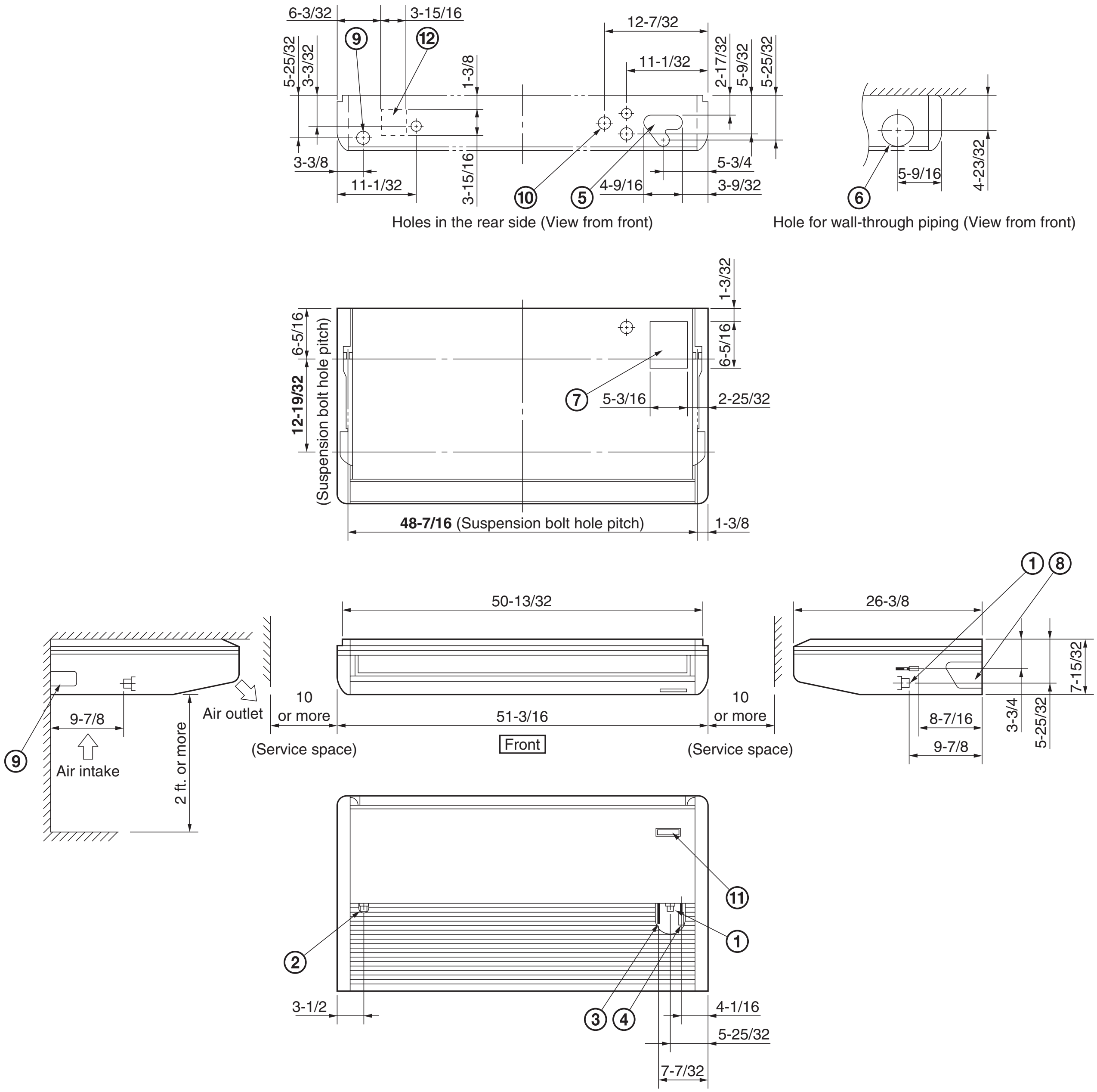


① Refrigerant liquid line (3/8") Flare connection
② Refrigerant gas line (5/8") Flare connection
③ Drain hose OD 45/64

Dimension : inch

1-4 Dimensional data

Indoor unit : Ceiling Type
26 Type



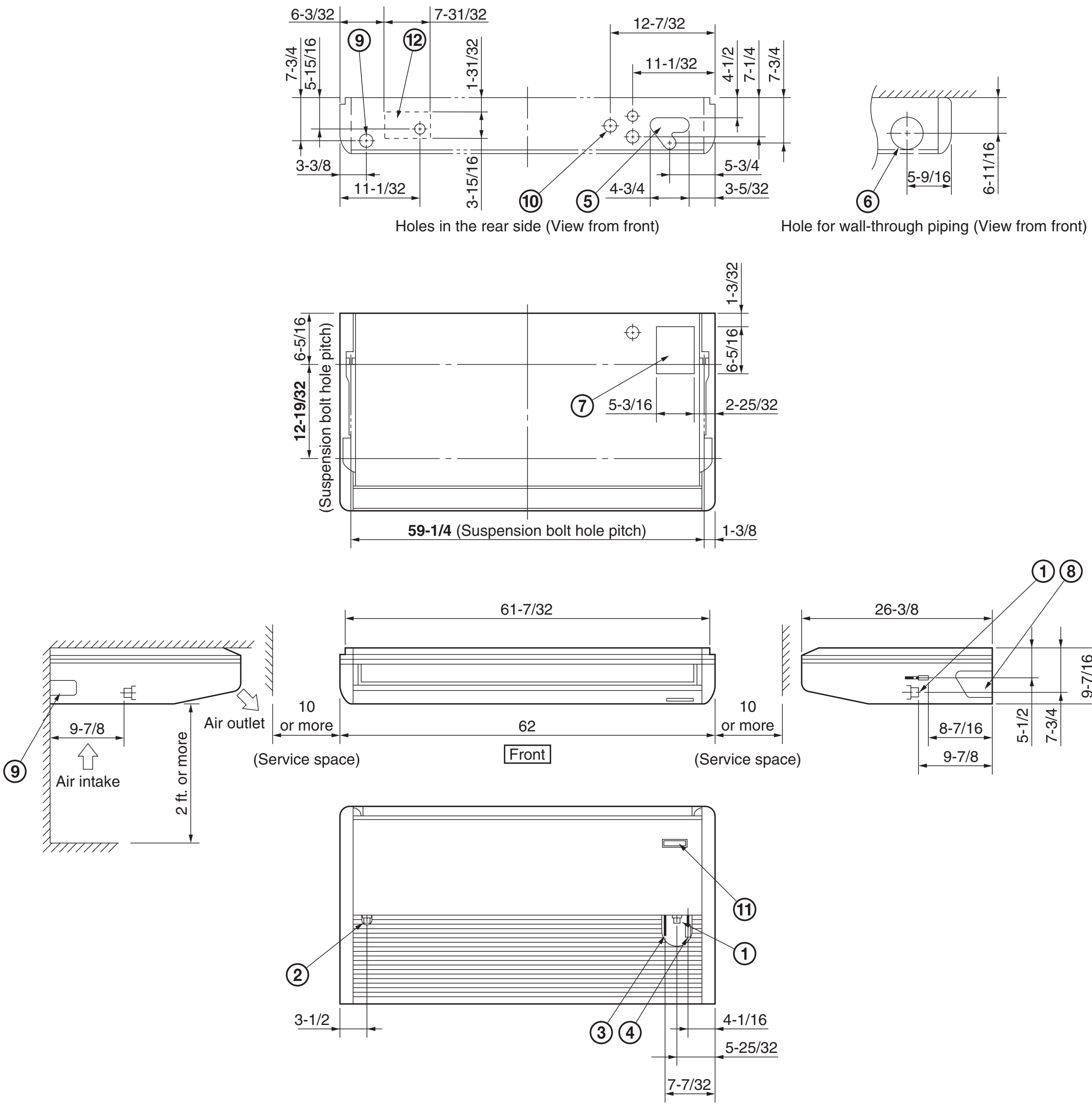
Dimension : inch

① Drain connection
② Drain connection for left side
③ Refrigerant liquid line (3/8") Flare connection
④ Refrigerant gas line (5/8") Flare connection
⑤ Hole for rear side refrigerant tubing
⑥ Hole for through-the-wall refrigerant tubing (ø3-15/16" hole)
⑦ Hole for fresh air intake (Knockout hole)
⑧ Hole for right side refrigerant tubing (Knockout hole)
⑨ Hole for left side drain connection (Knockout hole)
⑩ Hole for power supply (Conduit size 1/2")
⑪ Infrared rays receiver for wireless remote controller
⑫ Cutting position for fresh air intake

1919_THS_I

1-4 Dimensional data

Indoor unit : Ceiling Type
36, 42 Type



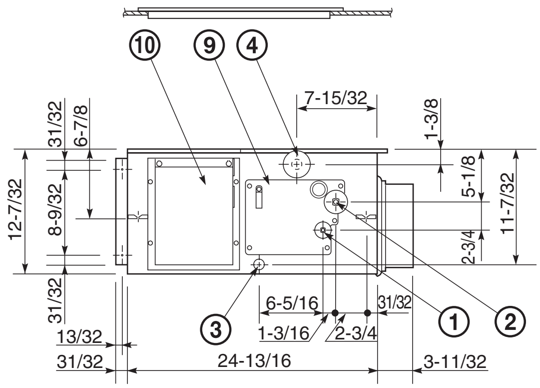
Dimension : inch

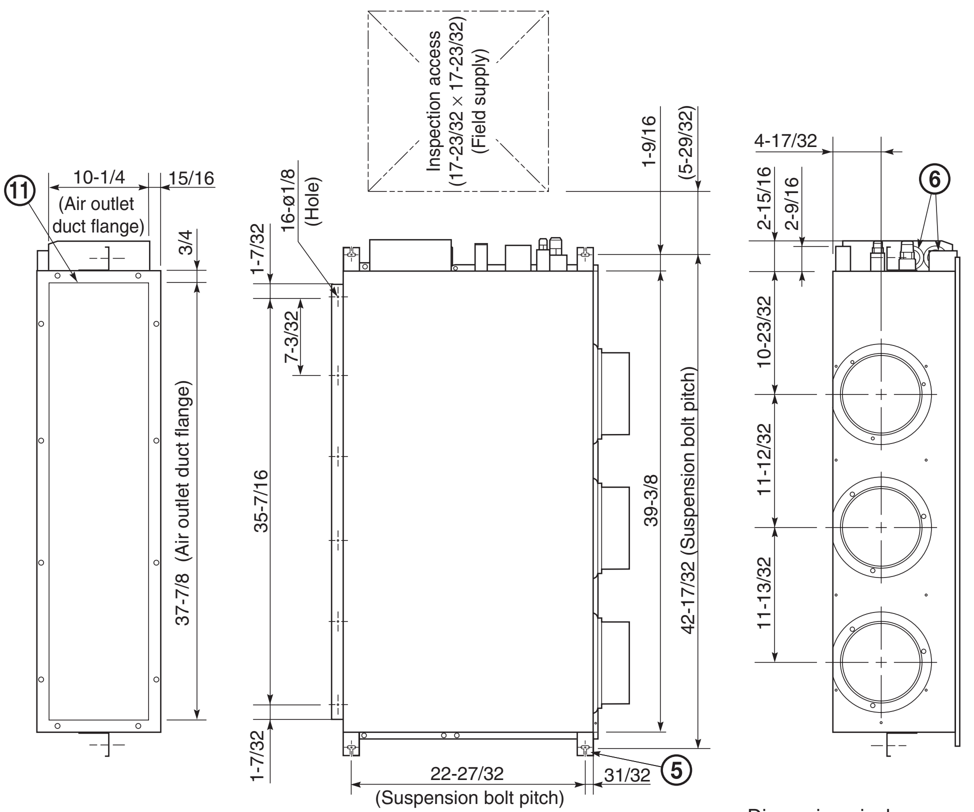
① Drain connection
② Drain connection for left side
③ Refrigerant liquid line (3/8") Flare connection
④ Refrigerant gas line (5/8") Flare connection
⑤ Hole for rear side refrigerant tubing
⑥ Hole for through-the-wall refrigerant tubing (ø3-15/16" hole)
⑦ Hole for fresh air intake (Knockout hole)
⑧ Hole for right side refrigerant tubing (Knockout hole)
⑨ Hole for left side drain connection (Knockout hole)
⑩ Hole for power supply (Conduit size 1/2")
⑪ Infrared rays receiver for wireless remote controller
⑫ Cutting position for fresh air intake

1920_TS_I

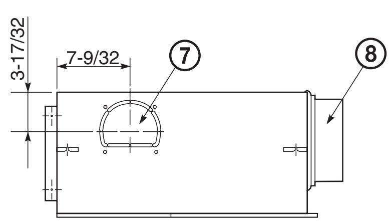
1-4 Dimensional data

Indoor unit : Low Silhouette Duct Type
26 Type





Dimension : inch

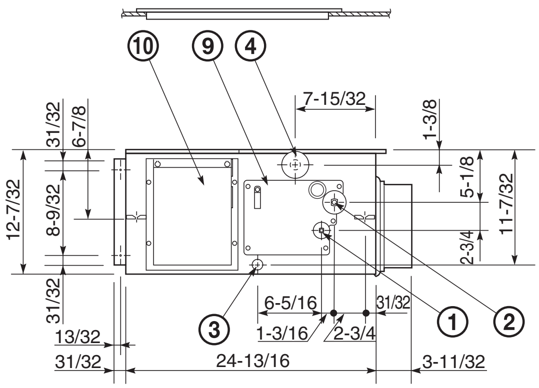


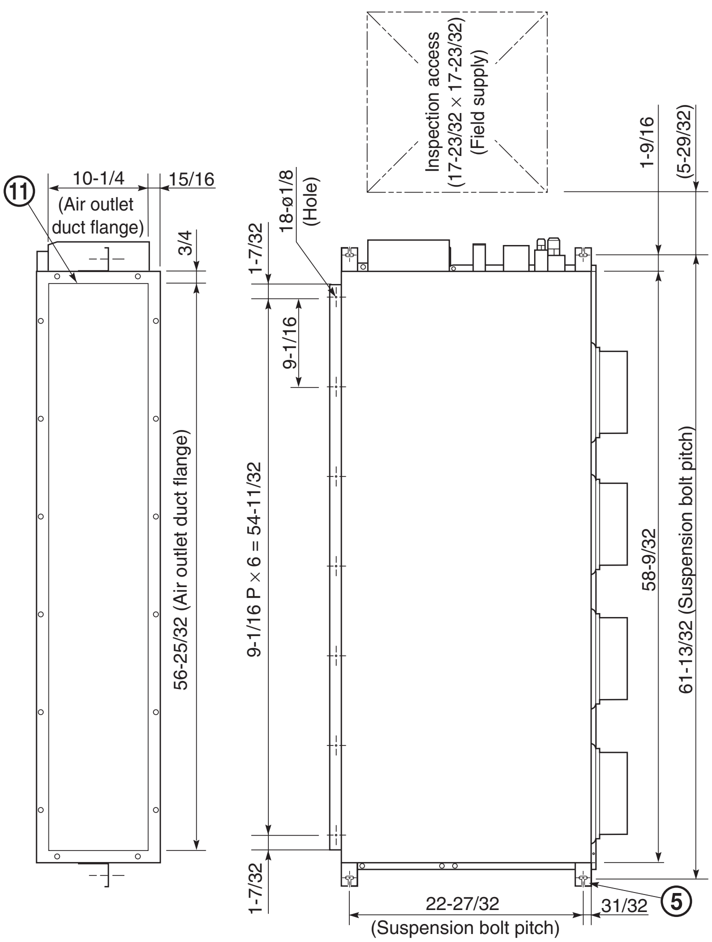
① Refrigerant liquid line (3/8") Flare connection
② Refrigerant gas line (5/8") Flare connection
③ Upper drain port (O.D. 1-1/4)
④ Bottom drain port (O.D. 1-1/32)
⑤ Suspension lug
⑥ Power supply inlet (conduit size 1/2")
⑦ Fresh air intake port (ø5-29/32)
⑧ Flange for the flexible air outlet duct (ø7-7/8)
⑨ Tube cover
⑩ Electrical component box
⑪ Flange for the air intake duct
(option or field supply)

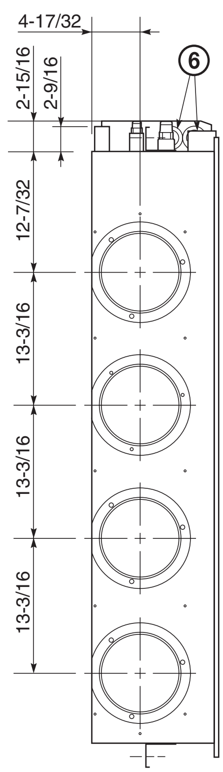
1914_U_I

1-4 Dimensional data

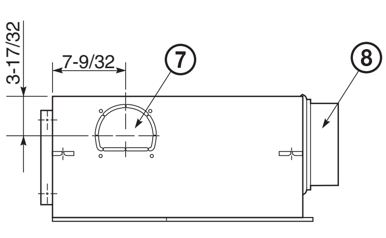
Indoor unit : Low Silhouette Duct Type
36 Type







Dimension : inch



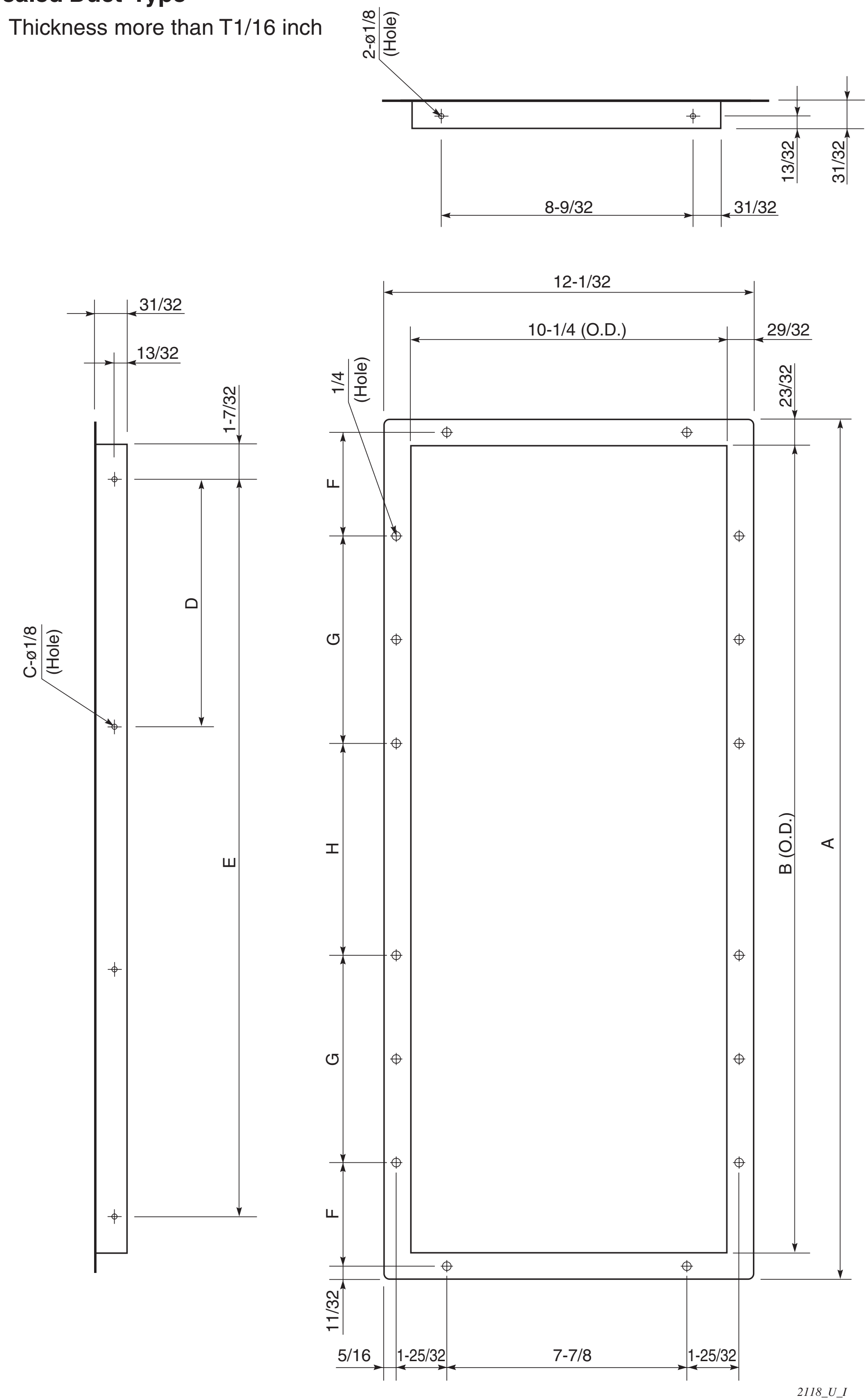
① Refrigerant liquid line (3/8") Flare connection
② Refrigerant gas line (5/8") Flare connection
③ Upper drain port (O.D. 1-1/4)
④ Bottom drain port (O.D. 1-1/32)
⑤ Suspension lug
⑥ Power supply inlet (conduit size 1/2")
⑦ Fresh air intake port (ø5-29/32)
⑧ Flange for the flexible air outlet duct (ø7-7/8)
⑨ Tube cover
⑩ Electrical component box
⑪ Flange for the air intake duct
(option or field supply)

1915_U_I

1-4 Dimensional data

Indoor unit : Low Silhouette Duct Type

■ Flange for the air intake duct (Field supply) : For Concealed Duct Type



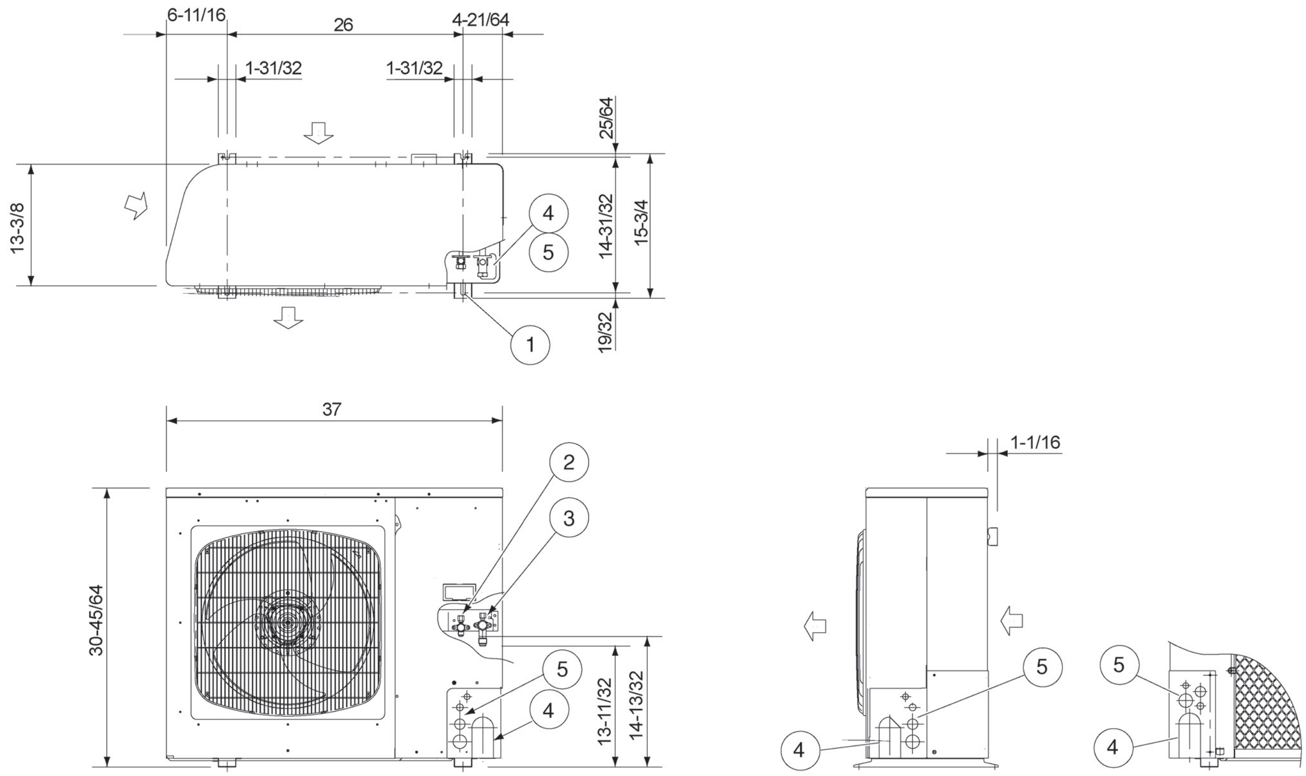
(inch)

	A	B	C*	D	E	F	G	H	I
26 type	39-9/32	37-7/8	5	7-3/32	5 × 7-3/32 = 35-7/16	4-23/32	9-21/32 (9-21/32 × 1)	9-27/32	5/8
36 type	58-3/16	56-25/32	6	9-1/16	6 × 9-1/16 = 54-11/32	4-23/32	19-9/32 (9-21/32 × 2)	9-7/16	25/32

* ø 1/8 Number of holes

1-4 Dimensional Data

(B) Outdoor Unit: U-26PE1U6, U-26PS1U6
U-36PE1U6, U-36PS1U6

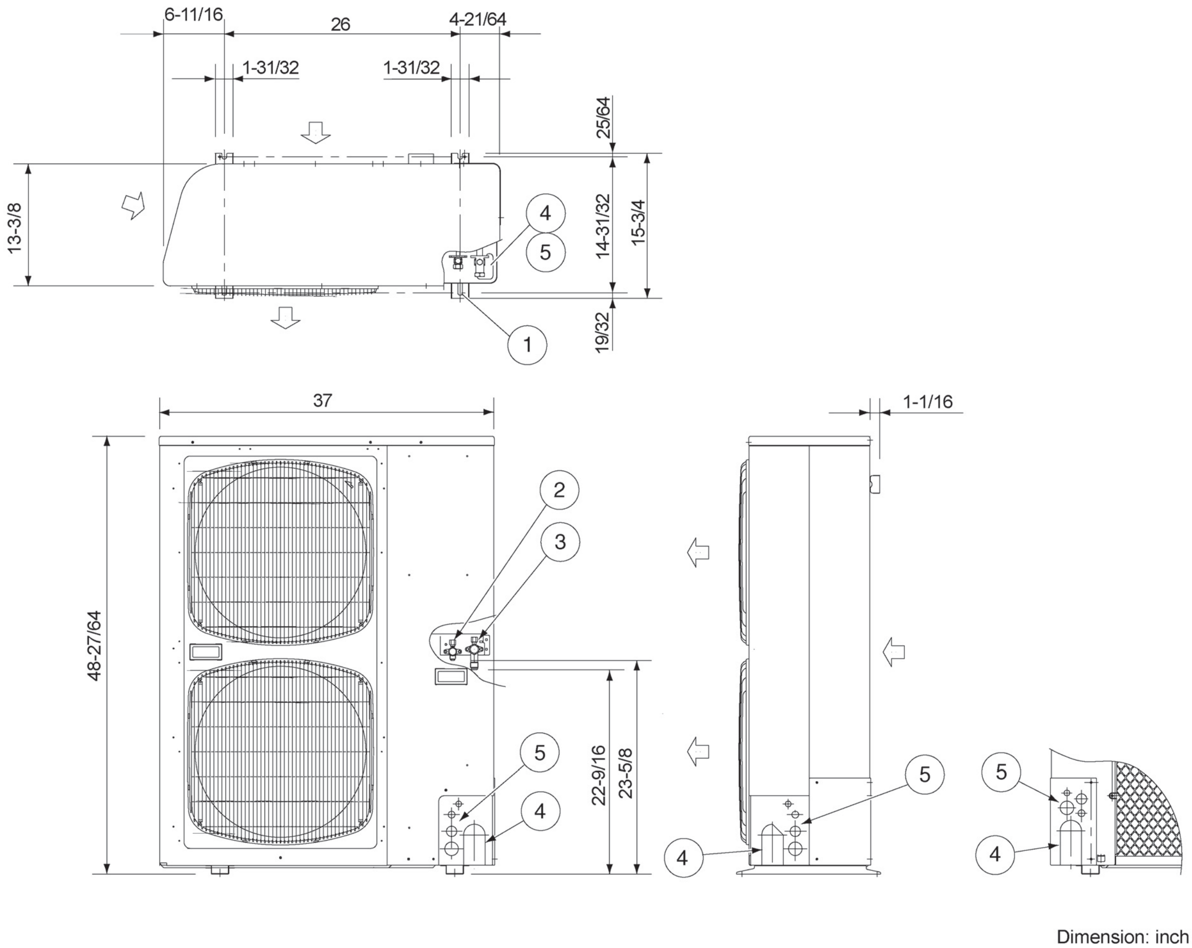


Dimension: inch

①	Hole for anchor bolt (4–R6.5) / Anchor bolt: M10
②	Refrigerant tube joint (liquid line tube) • Flare connection 3/8 in (9.52 mm)
③	Refrigerant tube joint (gas line tube) • Flare connection 5/8 in (15.88 mm)
④	Refrigerant tubing inlet (knock-out hole)
⑤	Power supply inlet (knock-out hole ϕ38, ϕ29, ϕ19, ϕ16 mm)

1-4 Dimensional Data

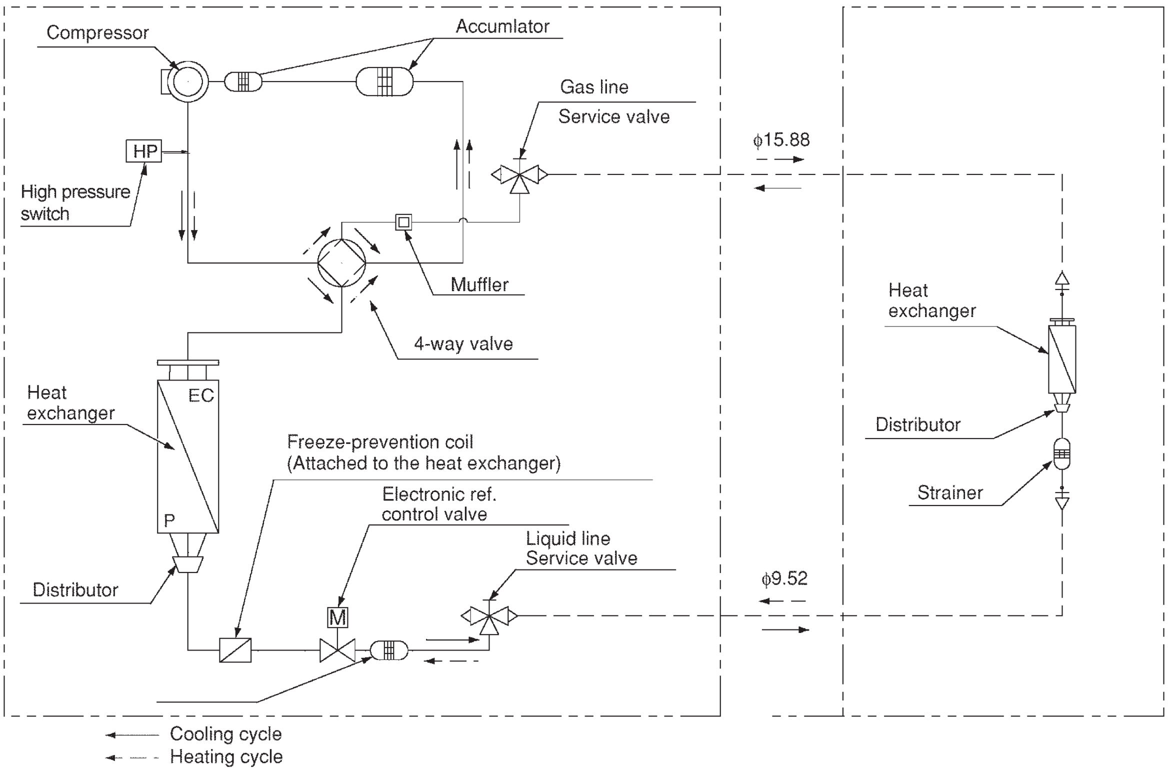
(B) Outdoor Unit: U-42PE1U6, U-42PS1U6



①	Hole for anchor bolt (4–R6.5) / Anchor bolt: M10
②	Refrigerant tube joint (liquid line tube) • Flare connection 3/8 in (9.52 mm)
③	Refrigerant tube joint (gas line tube) • Flare connection 5/8 in (15.88 mm)
④	Refrigerant tubing inlet (knock-out hole)
⑤	Power supply inlet (knock-out hole ϕ38, ϕ29, ϕ19, ϕ16 mm)

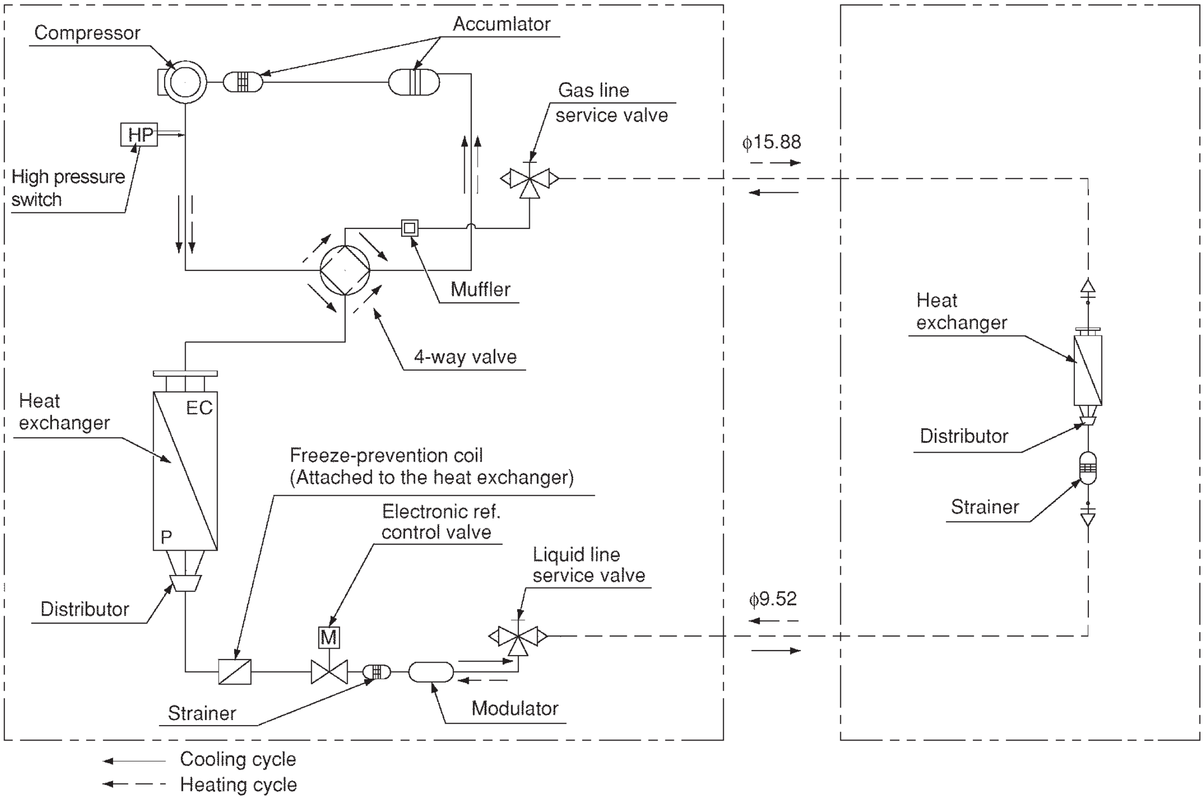
1-5 Refrigerant Flow Diagram

Outdoor Unit : U-26PE1U6, U-26PS1U6 Indoor Unit : 26, 30, 36 Types
U-36PE1U6, U-36PS1U6



1-5 Refrigerant Flow Diagram

Outdoor Unit: U-42PE1U6, U-42PS1U6 Indoor Unit: 42 Type



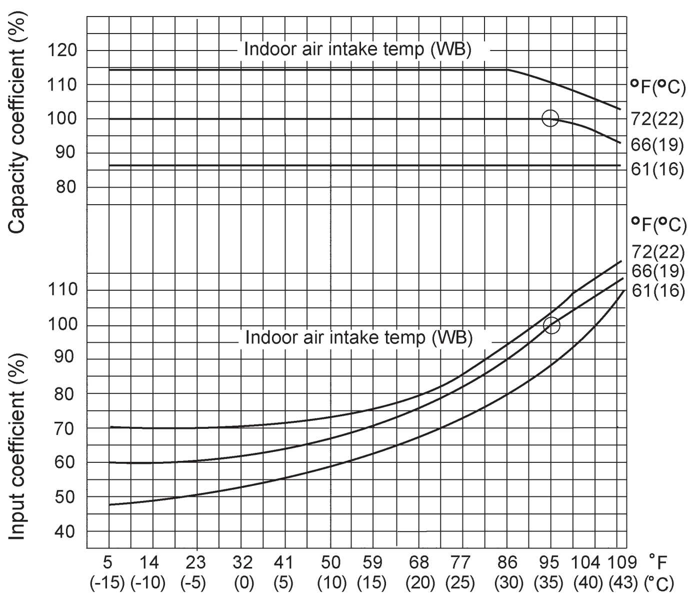
1-6 Operating Range

	Temperature	Indoor Air Intake	Outdoor Air Intake
Cooling	Maximum	90 °F DB / 77 °F WB	115 °F DB
	Minimum	64 °F DB / 57 °F WB	14 °F DB
Heating	Maximum	86 °F DB	64 °F WB / 75 °F DB
	Minimum	61 °F DB	-4 °F WB / -4 °F DB

1-7 Capacity Correction Graph According to Temperature Condition

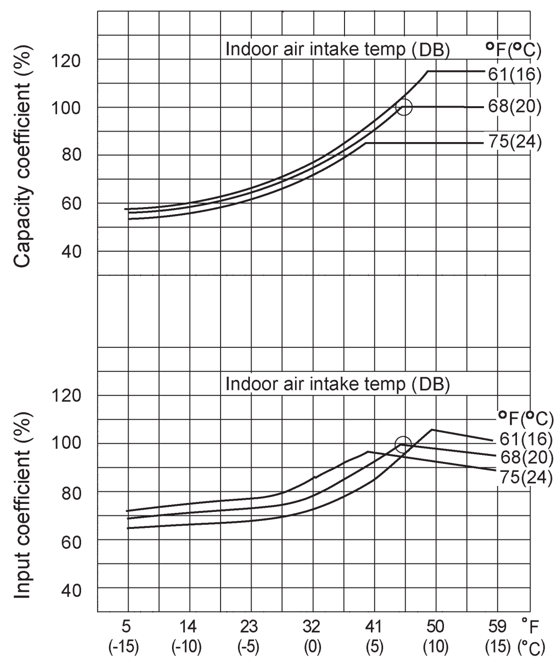
U-26PE1U6, U-26PS1U6
U-36PE1U6, U-36PS1U6
U-42PE1U6, U-42PS1U6

Cooling capacity ratio (maximum capacity)



Outdoor air intake temp (DB)

Heating capacity ratio (maximum capacity)



Outdoor air intake temp (WB)

Outdoor unit heating capacity correction coefficient during of frosting/defrosting (RH approximately 85%)

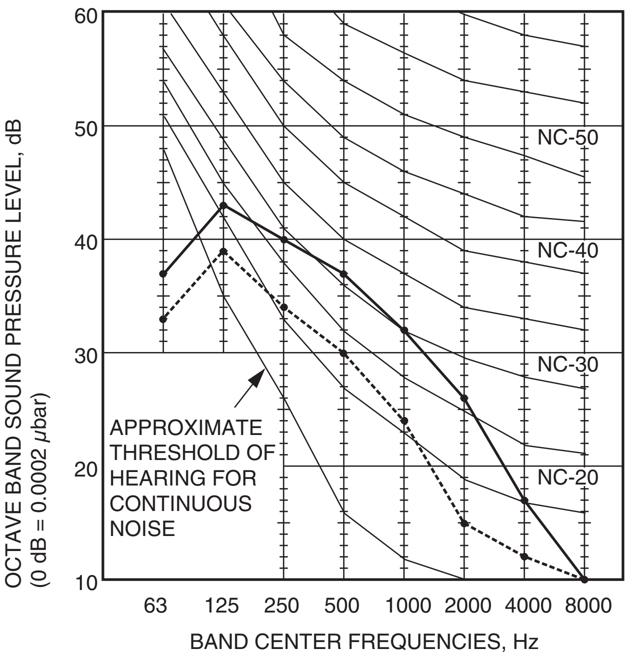
Outdoor intake air temperature °F WB(85% RH) (°C)	5 (-15)	14 (-10)	16 (-9)	18 (-8)	19 (-7)	21 (-6)	23 (-5)	25 (-4)	27 (-3)	28 (-2)	30 (-1)	32 (0)	34 (1)	36 (2)	37 (3)	39 (4)	41 (5)	43 (6)
Correction coefficient	0.97	0.97	0.96	0.96	0.95	0.94	0.91	0.89	0.88	0.87	0.87	0.87	0.88	0.89	0.91	0.92	0.95	1.0

To calculate the heating capacity with consideration for frosting/defrosting operation, multiply the heating capacity found from the capacity graph by the correction coefficient from the table above.

1-8 Noise Criterion Curves

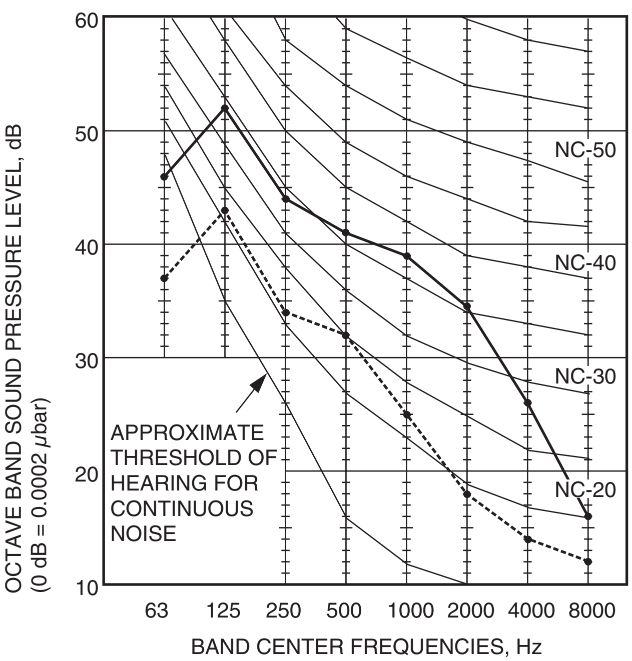
● 4-Way Cassette Type

MODEL	: S-26PU1U6
SOUND LEVEL	: HIGH 38 dB(A), NC 31
	LOW 31 dB(A), NC 23
CONDITION	: Center, Under the unit 4.9 ft.
SOURCE	: 208 - 230 V, 1 Phase, 60 Hz



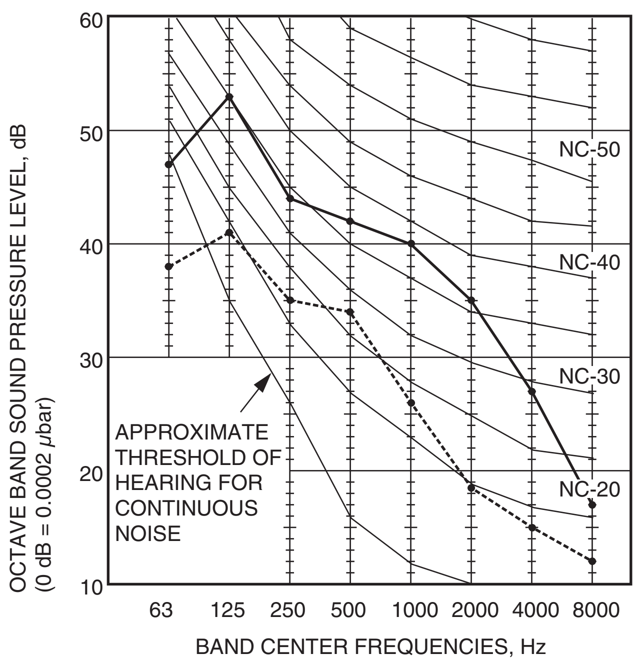
2108_X_I

MODEL	: S-36PU1U6
SOUND LEVEL	: HIGH 44 dB(A), NC 37
	LOW 33 dB(A), NC 25
CONDITION	: Center, Under the unit 4.9 ft.
SOURCE	: 208 - 230 V, 1 Phase, 60 Hz



2109_X_I

MODEL	: S-42PU1U6
SOUND LEVEL	: HIGH 45 dB(A), NC 38
	LOW 34 dB(A), NC 27
CONDITION	: Center, Under the unit 4.9 ft.
SOURCE	: 208 - 230 V, 1 Phase, 60 Hz



2110_X_I

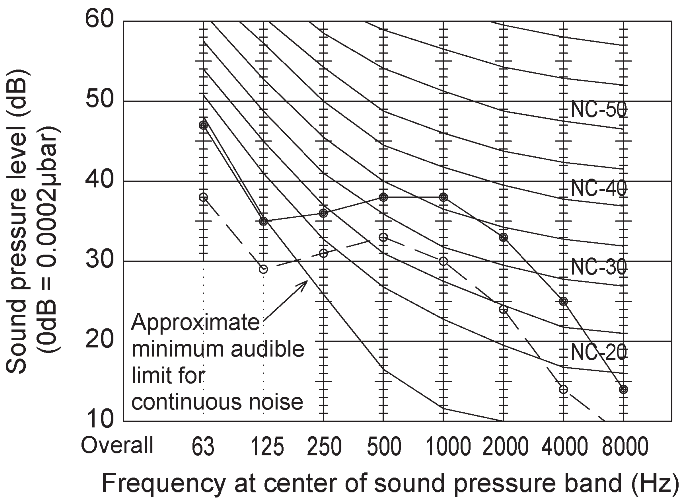
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1-8 Noise Criterion Curves

● Wall Mounted Type

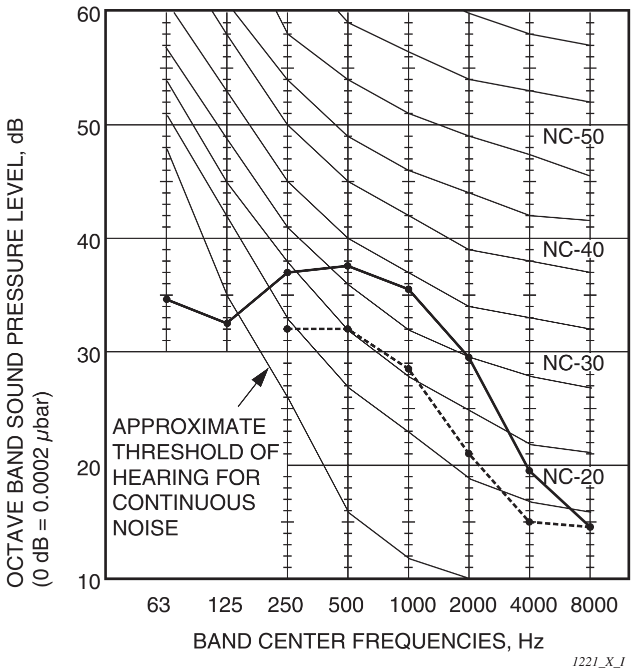
MODEL	: S-26PK1U6		
SOUND LEVEL	: HIGH	42	dB(A), NC 31
	LOW	35	dB(A), NC 27
CONDITION	: Distance 3.3 ft., Under the unit 3.3 ft.		
SOURCE	: 208 - 230 V, 1 Phase, 60 Hz		



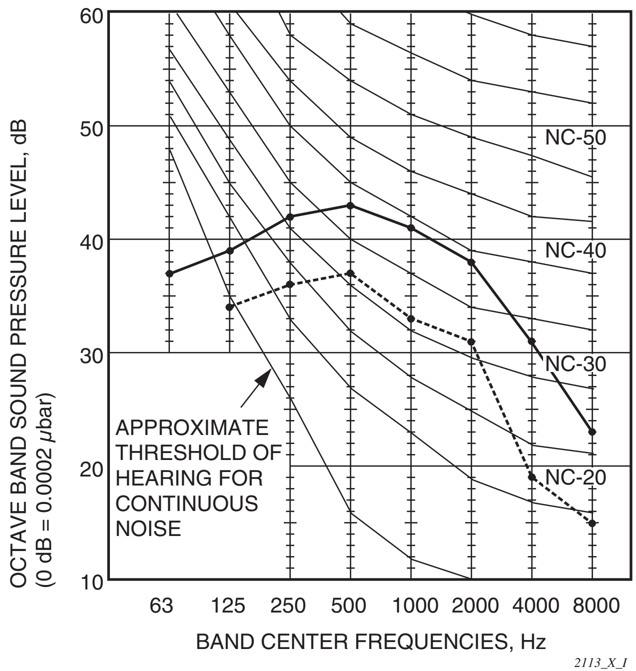
1-8 Noise Criterion Curves

● Ceiling Type

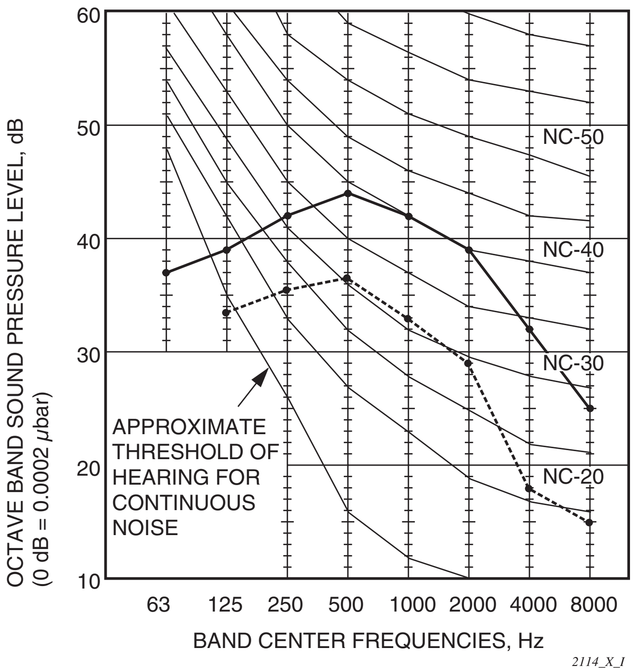
MODEL	: S-26PT1U6
SOUND LEVEL	: HIGH 40 dB(A), NC 34
	LOW 36 dB(A), NC 26
CONDITION	: Distance 3.3 ft., Under the unit 3.3 ft.
SOURCE	: 208 - 230 V, 1 Phase, 60 Hz



MODEL	: S-36PT1U6
SOUND LEVEL	: HIGH 46 dB(A), NC 39
	LOW 37 dB(A), NC 31
CONDITION	: Distance 3.3 ft., Under the unit 3.3 ft.
SOURCE	: 208 - 230 V, 1 Phase, 60 Hz



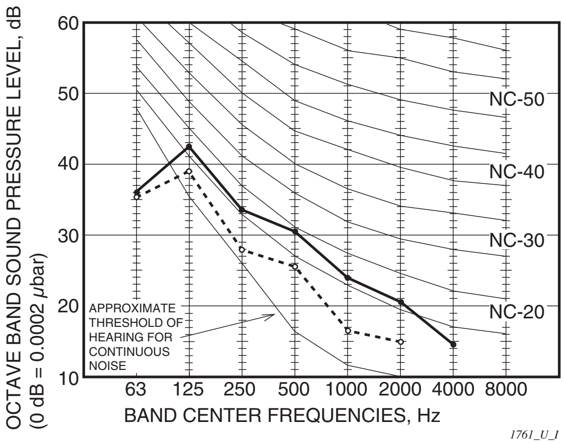
MODEL	: S-42PT1U6
SOUND LEVEL	: HIGH 47 dB(A), NC 40
	LOW 38 dB(A), NC 32
CONDITION	: Distance 3.3 ft., Under the unit 3.3 ft.
SOURCE	: 208 - 230 V, 1 Phase, 60 Hz



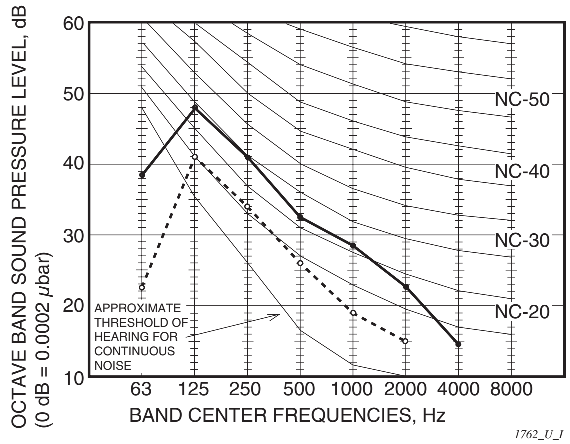
1-8 Noise Criterion Curves

● Low Silhouette Duct Type

MODEL	: S-26PF1U6
SOUND LEVEL	: HIGH 34 dB(A), NC 22 / LOW 27 dB(A), NC 18
CONDITION	: Under the unit 4.9 ft.
SOURCE	: 208 - 230 V, 1 Phase, 60 Hz



MODEL	: S-36PF1U6
SOUND LEVEL	: HIGH 38 dB(A), NC 30 / LOW 31 dB(A), NC 21
CONDITION	: Under the unit 4.9 ft.
SOURCE	: 208 - 230 V, 1 Phase, 60 Hz

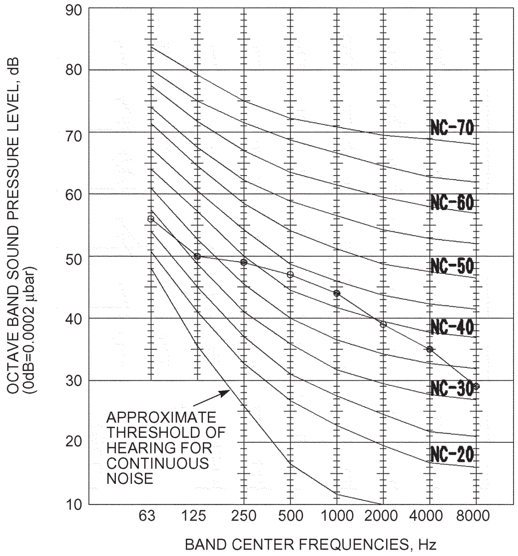


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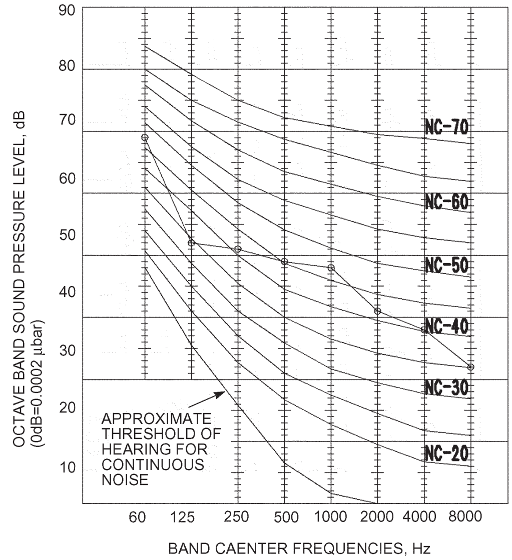
1-8 Noise Criterion Curves

● Outdoor Units

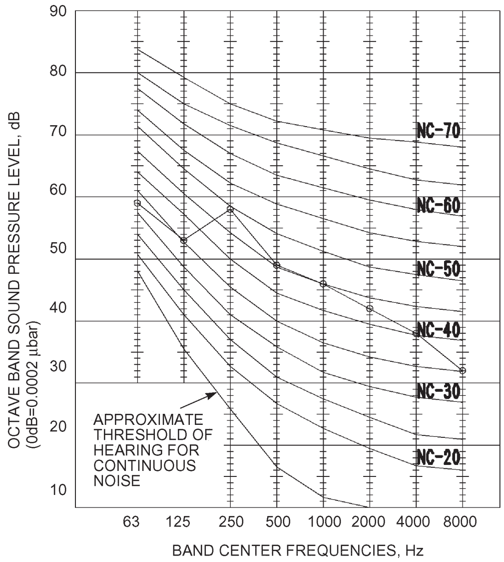
MODEL	: U-26PE1U6, U-26PS1U6
SOUND LEVEL	: 49 dB(A), NC 43
CONDITION	: Distance 3.3 ft. , Height 3.3 ft.
SOURCE	: 230 - 208 V, 1 Phase, 60 Hz



MODEL	: U-36PE1U6, U-36PS1U6
SOUND LEVEL	: 52 dB(A), NC 47
CONDITION	: Distance 3.3 ft. , Height 3.3 ft.
SOURCE	: 230 - 208 V, 1 Phase, 60 Hz



MODEL	: U-42PE1U6, U-42PS1U6
SOUND LEVEL	: 53 dB(A), NC 50
CONDITION	: Distance 3.3 ft. , Height 3.3 ft.
SOURCE	: 230 - 208 V, 1 Phase, 60 Hz



REMARKS:
1. Value obtained in the actual place where the unit is installed may be slightly higher than the values shown in this graph because of the conditions of operation, the structure of the building, the background noise and other factors.
2. The test results were obtained from an nechoic room.

NOTE

To evaluate "Noise level" the maximum number of the measured OCTAVE BAND SOUND PRESSURE LEVEL is used. Read the number on each BAND CENTER FREQUENCIES (horizontal axis) ranging from 63 Hz to 8000 Hz and select the maximum value (vertical axis) among them.

1-9 Increasing the Fan Speed

If external static pressure is too great (due to long extension of ducts, for example), the air flow volume may drop too low at each air outlet. This problem may be solved by increasing the fan speed using the following procedure:

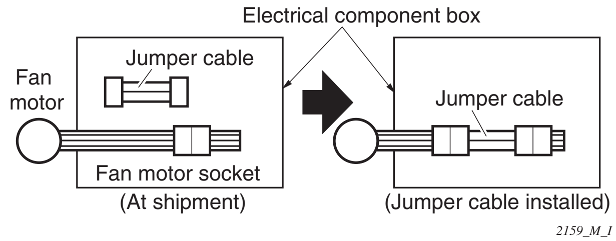
(1) Remove 4 screws on the electrical component box and remove the cover plate.

(2) Disconnect the fan motor sockets in the box.

(3) Take out the jumper cable (sockets at both ends) clamped in the box.

(4) Securely connect the jumper cable sockets between the disconnected fan motor sockets in step 2.

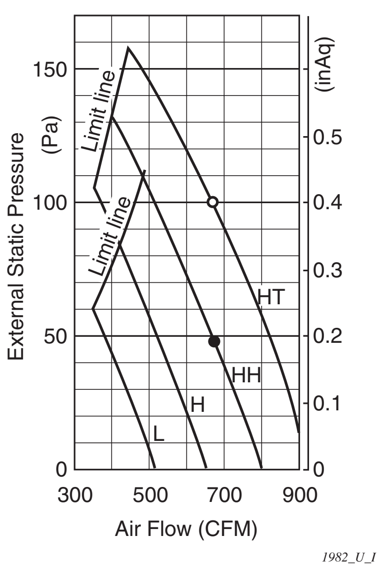
(5) Place the cable neatly in the box and reinstall the cover plate.



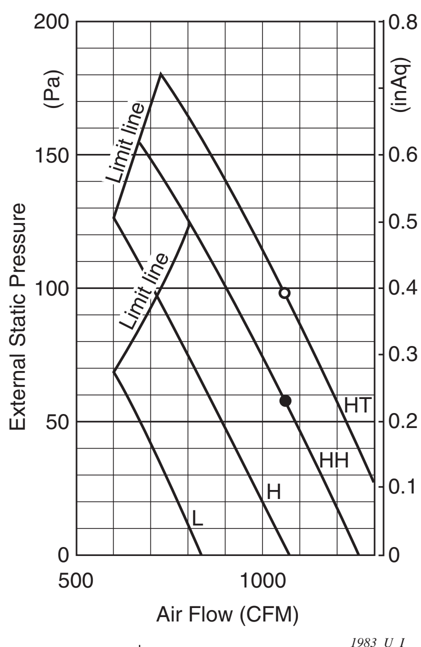
1

Indoor Fan Performance

26 Type



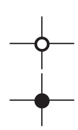
36 Type



NOTE

HT : Using the booster cable

H : At shipment



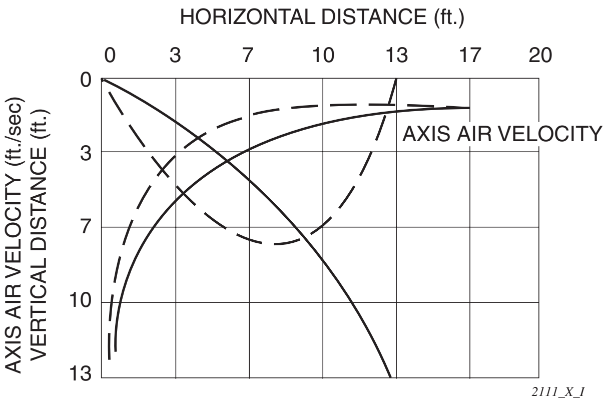
■ **How to read the diagram**

The vertical axis is the external static pressure (Pa) while the horizontal axis represents the AIR FLOW (CFM).
The characteristic curves for "HT", "H", "M" and "L" fan speed control are shown.
The nameplate values are shown based on the "H" air flow. For the 26 type, the air flow is 636 CFM, while the external static pressure is 49 Pa at "H" position. If external static pressure is too great (due to long extension of duct, for example), the air flow volume may drop too low at each air outlet.
This problem may be solved by increasing the fan speed as explained above.

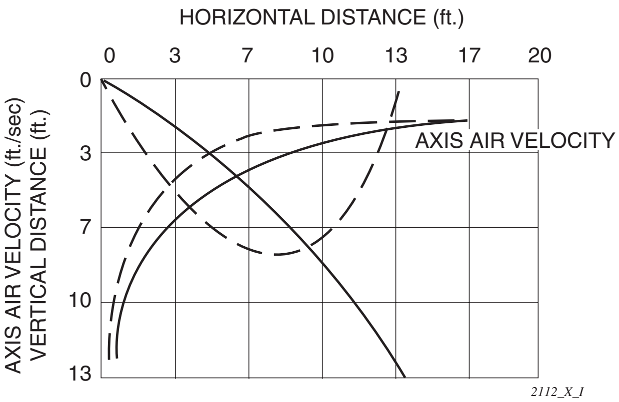
1-10 Air throw distance chart

● 4-Way Cassette Type

Model: 26 Type



Model: 36, 42 Type



———— : LOUVER ANGLE 20˚ in Cooling mode

— — — — : LOUVER ANGLE 60˚ in Heating mode

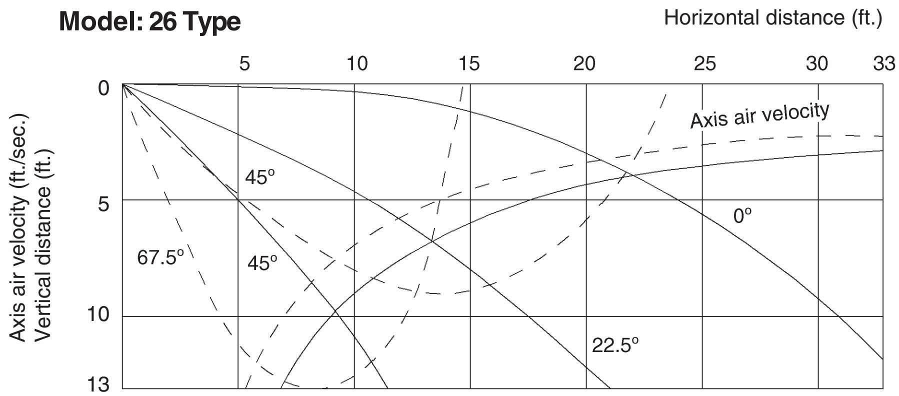
Condition Fan Speed : Hi

Room air temp. : 80˚F DB in cooling mode
68˚F DB in heating mode

1-10 Air throw distance chart

● Wall Mounted Type

Model: 26 Type



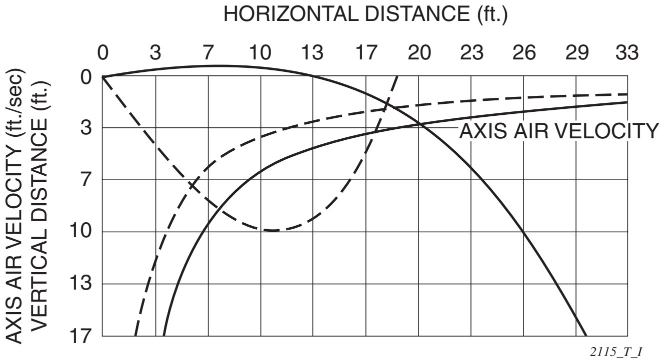
	—— COOLING	- - - - - HEATING
FAN SPEED	HIGH	HIGH
ROOM AIR TEMP.	80°F	70°F
FLAP ANGLE	0°, 22.5°, 45°	45°, 67.5°

1

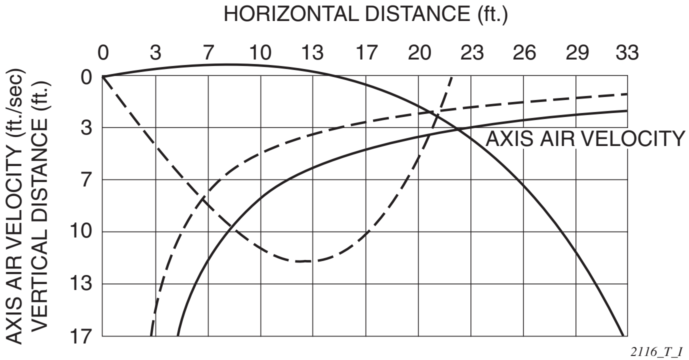
1-10 Air throw distance chart

● Ceiling Type

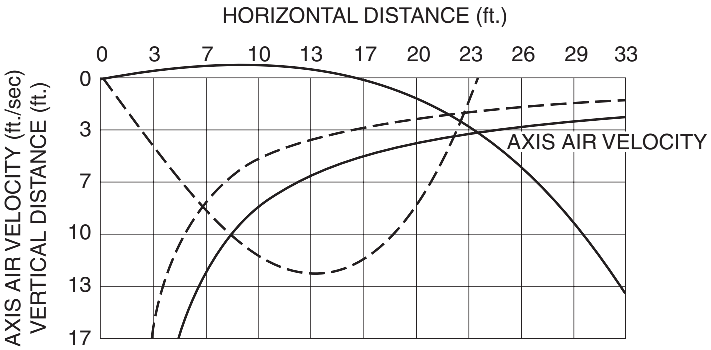
Model: 26 Type



Model: 36 Type



Model: 42 Type



	COOLING	HEATING
FAN SPEED	HIGH	HIGH
ROOM AIR TEMP.	80°F	68° F
LOUVER ANGLE	– 7°	54°

———— : COOLING

- - - - - - : HEATING

2117_T_I

1-11. ELECTRICAL WIRING

- **General Precautions on Wiring**

(1) Before wiring, confirm the rated voltage of the unit as shown on its nameplate, then carry out the wiring closely following the wiring diagram.

(2) Provide a power outlet to be used exclusively for each unit, and a power supply disconnect and circuit breaker for overcurrent protection should be provided in the exclusive line.

(3) To prevent possible hazards from insulation failure, the unit must be grounded.

(4) Each wiring connection must be done in accordance with the wiring system diagram.
Wrong wiring may cause the unit to misoperate or become damaged.

(5) Do not allow wiring to touch the refrigerant tubing, compressor, or any moving parts of the fan.

(6) Unauthorized changes in the internal wiring can be very dangerous. The manufacturer will accept no responsibility for any damage or misoperation that occurs as a result of such unauthorized changes.

(7) Regulations on wire diameters differ from locality to locality. For field wiring rules, must follow your LOCAL ELECTRICAL CODES before beginning.
You must ensure that installation complies with all relevant rules and regulations.

(8) To prevent malfunction of the air conditioner caused by electrical noise, care must be taken when wiring as follows:
- The remote control wiring and the inter-unit control wiring should be wired apart from the inter-unit power wiring.
- Use shielded wires for inter-unit control wiring between units and ground the shield on one side only.

(9) If the power supply cord of this appliance is damaged, it must be replaced by a repair shop appointed by the manufacturer, because special-purpose tools are required.

(10) All wiring used must be Class 1.

Recommended Wire Length and Wire Diameter for Power Supply System

You must follow LOCAL ELECTRICAL CODES for wiring.

Outdoor Unit

Type	Time delay fuse or circuit capacity
U-26PE1U6	30 A
U-36PE1U6	35 A
U-42PE1U6	40 A

Type	Time delay fuse or circuit capacity
U-26PS1U6	25 A
U-36PS1U6	30 A
U-42PS1U6	35 A

Indoor Unit

Type	Time delay fuse or circuit capacity
U1, K1, T1, F1	15 A

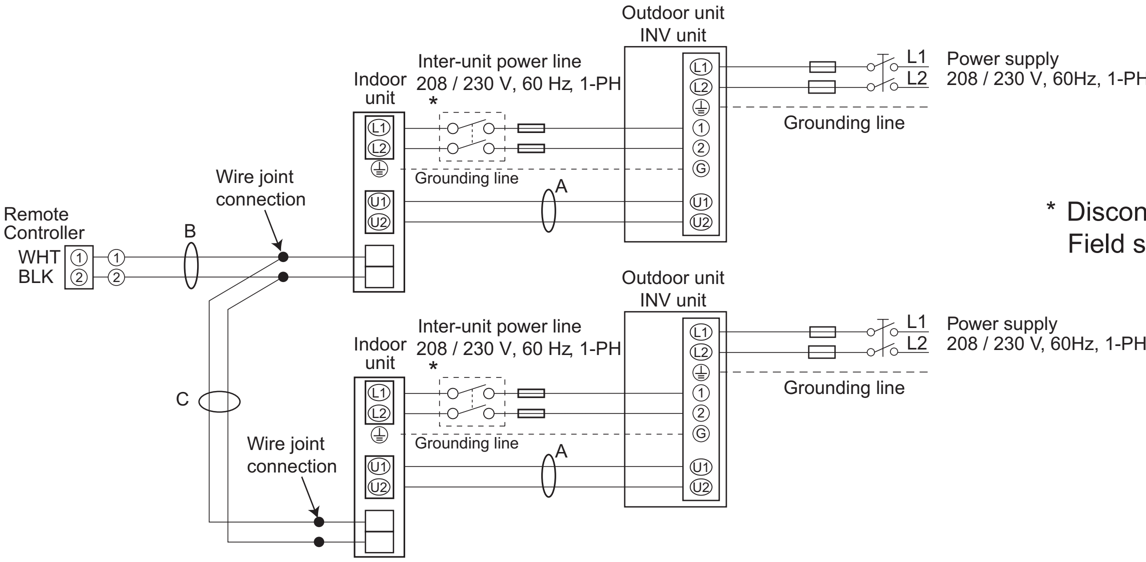
Control Wiring

(A) Inter-Unit Control Wiring	(B) Remote Control Wiring	(C) Control Wiring For Group Control
AWG #18 **Use high voltage wire (300 V)** *1	AWG #18 *2 (0.75 mm^2)	AWG #18 *2 - (0.75 mm^2)
Max. 3,300 ft.	Max. 1,650 ft.	Max. 650 - ft. (Total)

AWG=American Wire Gauge
*1 With ring-type wire terminal
*2 Wire joint connection

■ Wiring System Diagrams

Basic wiring diagram for standard control



* Disconnect switch
Field supply

NOTE

Disconnect switch may be needed by the National/Local code.

⚠ ALWAYS COMPLY WITH NATIONAL AND LOCAL CODE REQUIREMENTS.

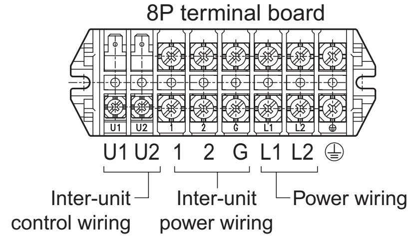
NOTE

(1) Refer to Recommended Wire Length and Wire Diameter for Power Supply System for the explanation of “A”, “B” and “C” in the above diagrams.
(2) Inter-Unit Control Wiring (A) and remote control wiring (B), (C) have no polarity. But for other wiring, respect polarity. Be sure to connect as shown in the Wiring System Diagram.
(3) In case of separate supply connection to indoor unit, over current protection must be provided between power source and indoor unit.

MAXIMUM OVER CURRENT PROTECTION 15 A (FUSE OR HACR TYPE CIRCUIT BREAKER)

Outdoor Unit

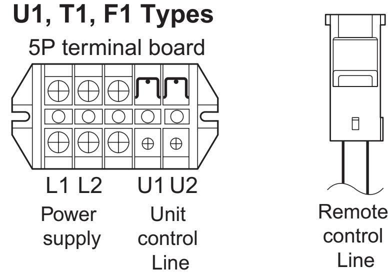
8P terminal board



Indoor Unit

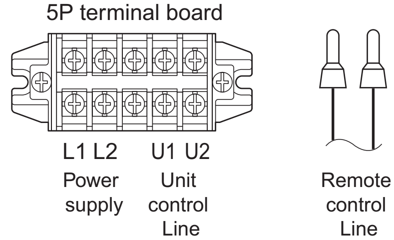
U1, T1, F1 Types

5P terminal board



K1 Type

5P terminal board



WARNING **Loose wiring may cause the terminal to overheat or result in unit malfunction. A fire hazard may also exist. Therefore, ensure that all wiring is tightly connected.**

When connecting each power wire to the corresponding terminal, follow the instructions on “How to connect wiring to the terminal” and fasten the wire securely with the fixing screw of the terminal plate.

How to Connect Wiring to the Terminal

■ For stranded wiring

(1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to expose the stranded wiring about 3/8 in. (Fig. 1-1)

(2) Using a Phillips head screwdriver, remove the terminal screw(s) on the terminal plate.

(3) Using a ring connector fastener or pliers, securely clamp each stripped wire end with a ring pressure terminal. (Fig. 1-1)

(4) Place the ring pressure terminal, and replace and tighten the removed terminal screw using a screwdriver. (Fig. 1-2)

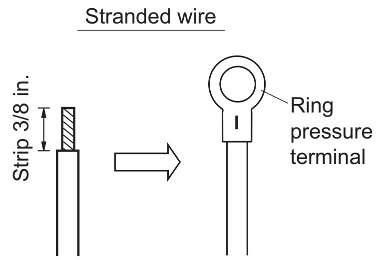


Fig. 1-1

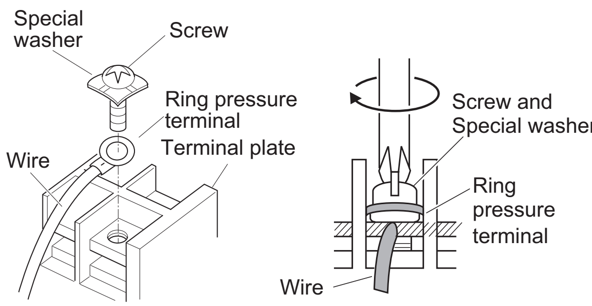


Fig. 1-2

1-12. Installation Instructions

■ Outdoor Unit

1. Tubing Size

Single type

- Refrigerant tubing between the indoor and outdoor units should be kept as short as possible.
- The length of the refrigerant tubes between the indoor and outdoor units are limited by the elevation difference between the 2 units. During tubing work, try to make both the tubing length (L) and the difference in elevation (H1) as short as possible. Refer to Table 1-2.

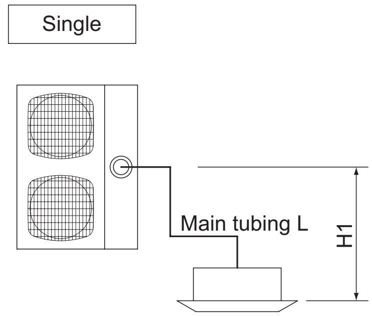


Table 1-1

Indoor unit type	26, 36 types	42 type
Maximum length	165 ft.	165 ft.
Charge-less tubing length (actual length)	10 – 100 ft.	15 – 100 ft.
Additional charge per 1 ft.	0.43 oz.	

Maximum indoor-outdoor height difference	If outdoor unit is higher	H1	≤ 100
	If outdoor unit is lower	H1	≤ 50

Table 1-2 Tubing Data for Models

Tubing Data \ Models		U-26PE1U6 U-26PS1U6	U-36PE1U6 U-36PS1U6	U-42PE1U6 U-42PS1U6
Tubing size outer diameter	Liquid tube in. (mm)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)
	Gas tube in. (mm)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)
Limit of tubing length (ft.)		165	165	165
Limit of elevation difference between the 2 units	Outdoor unit is placed higher. (ft.)	100	100	100
	Outdoor unit is placed lower. (ft.)	50	50	50
Max. allowable tubing length at shipment (ft.)		10 – 100	10 – 100	10 – 100
Required additional refrigerant *[1] (oz./ft.)		a) 0.43	b) 0.43	b) 0.43
Refrigerant charged at shipment (lbs.)		4.2	6.2	7.9

No additional charge of compressor oil is necessary.

*[1] If total tubing length becomes 100 to 165 ft., charge additional refrigerant by 0.43 oz./ft.

Table 1-3 List of Connection Tube Sizes

	Main tubing (L)
Type capacity of indoor units	26 – 42
Gas tube	ø5/8"
Liquid tube	ø3/8"
Amount of additional charge per 1 ft.	0.43 oz.

CAUTION

1. **This unit requires no additional refrigerant charge up to 100 ft. tubing length. In case of more than 100 ft., additional refrigerant charge is required. Refer to Table 1-3.**

2. **In case of multi type installation, indoor units should be installed within the same room. If multi type indoor units are installed in different rooms, temperature control may develop problems because thermostat operation must follow the thermostat condition of 1 indoor unit only (the main unit).**

WARNING

Always check the gas density for the room in which the unit is installed.

2. Check of density limit

The room in which the air conditioner is to be installed requires a design that in the event of refrigerant gas leaking out, its density will not exceed a set limit.

The refrigerant (R410A), which is used in the air conditioner, is safe, without the toxicity or combustibility of ammonia, and is not restricted by laws imposed to protect the ozone layer. However, since it contains more than air, it poses the risk of suffocation if its density should rise excessively. Suffocation from leakage of refrigerant is almost non-existent.
With the recent increase in the number of high density buildings, however, the installation of multi air conditioner systems is on the increase because of the need for effective use of floor space, individual control, energy conservation by curtailing heat and carrying power, etc.
Most importantly, the multi air conditioner system is able to replenish a large amount of refrigerant compared to conventional individual air conditioners. If a single unit of the multi air conditioner system is to be installed in a small room, select a suitable model and installation procedure so that if the refrigerant accidentally leaks out, its density does not reach the limit (and in the event of an emergency, measures can be made before injury can occur).
ASHRAE and the International Mechanical Code of the ICC as well as CSA provide guidance and define safeguards related to the use of refrigerants, all of which define a Refrigerant Concentration Level (RCL) of 25 pounds per 1,000 cubic feet for R410A refrigerant.
For additional guidance and precautions related to refrigerant safety, please refer to the following documents:

International Mechanical Code 2009 (IMC-2009)
(or more recently revised)
ASHRAE 15
ASHRAE 34

3. SELECTING THE INSTALLATION SITE

3-1. Outdoor Unit

AVOID:
- heat sources, exhaust fans, etc. (Fig. 1-3)
- damp, humid or uneven locations

DO:
- choose a place as cool as possible.
- choose a place that is well ventilated and outside air temperature does not exceed maximum 115°F constantly.
- allow enough room around the unit for air intake/ exhaust and possible maintenance. (Fig. 1-4)
- use lug bolts or equal to bolt down unit, reducing vibration and noise.
- if cooling operation is to be used when the outdoor air temperature is 23°F or below, install a duct on the outdoor unit.

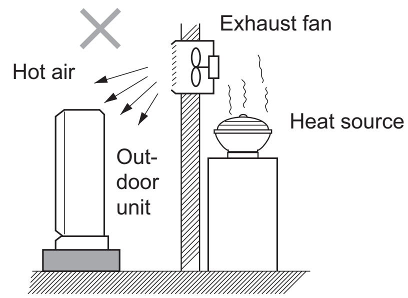


Fig. 1-3

Installation space

Distance between obstructions and the unit air inlet and outlet must be as shown below.

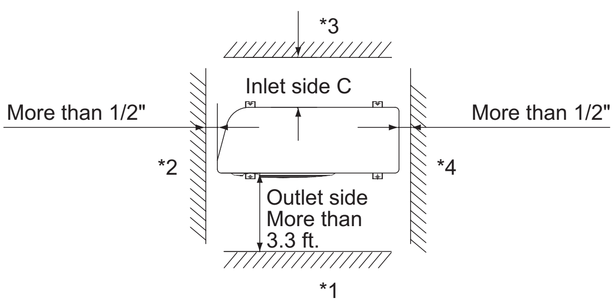


Fig. 1-4

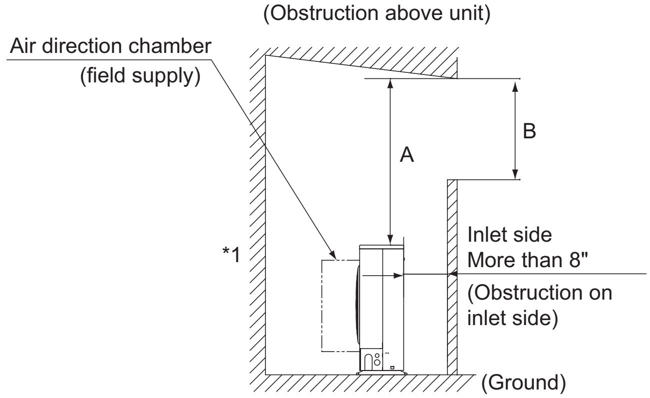


Fig. 1-5

CAUTION

- Concerning inlet-side distance "C" (Fig. 1-4)
  The minimum for distance "C" is 6" if there are no obstructions on the outlet side (wall *1 side) and *2 or *4 is not present. In all other cases, the minimum for distance "C" is 8".
- If the unit is installed with the outlet side facing wall *1, then there must be no obstructions on 2 of the remaining 3 sides: *2, *3, *4.
- If wall *1 is on the outlet side (Fig. 1-4), or if obstructions are present on all 3 sides *2, *3, and *4 (Fig. 1-4), then the minimum distance for "A" and "B" is 80" (Fig. 1-5). Even if there is no wall on the outlet side, a minimum of 3.3 ft. is required.

Installation requirements
- provide a solid base (concrete block, 4"×16" beams or equal), a minimum of 6" above ground level to reduce humidity and protect the unit against possible water damage and decreased service life. (Fig. 1-6)
- use lug bolts or equal to bolt down unit, reducing vibration and noise.

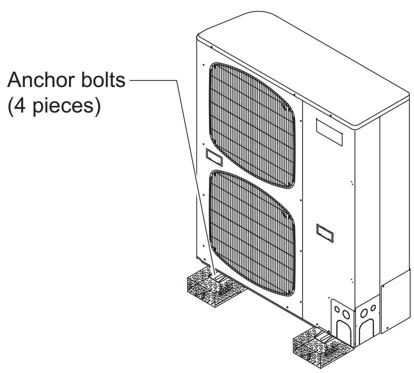


Fig. 1-6

3-2. Air-Discharge Chamber for Top Discharge

Be sure to install an air discharge chamber in the field when:

- it is difficult to keep a space of min. 20" between the air discharge outlet and an obstacle.
- the air discharge outlet is facing a sidewalk and discharged hot air may bother passers-by.
  Refer to Fig. 1-7.

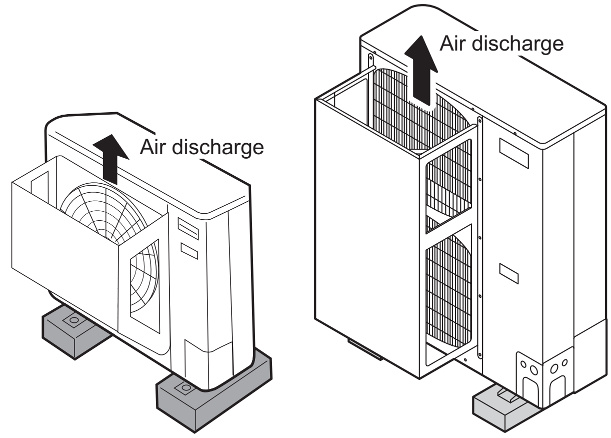


Fig. 1-7

3-3. Installing the Unit in Heavy Snow Areas

In locations with strong wind, snow-proof ducting should be fitted and direct exposure to the wind should be avoided as much as possible.

■ Countermeasures against snow and wind

In regions with snow and strong wind, the following problems may occur when the outdoor unit is not provided with a platform and snow-proof ducting:

a) The outdoor fan may not run and damage to the unit may occur.
b) There may be no air flow.
c) The tubing may freeze and burst.
d) The condenser pressure may drop because of strong wind, and the indoor unit may freeze.

In regions with significant snowfall, the outdoor unit should be provided with a platform and snow-proof duct.

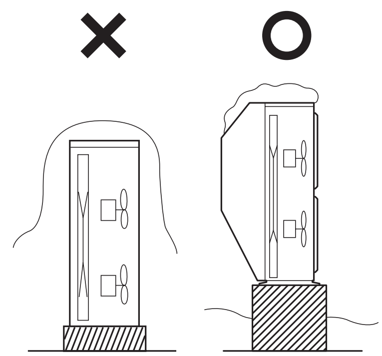


Fig. 1-8

3-4. Precautions for Installation in Heavy Snow Areas

(1) The platform should be higher than the max. snow depth. (Fig. 1-8)
(2) The 2 anchoring feet of the outdoor unit should be used for the platform, and the platform should be installed beneath the air intake side of outdoor unit.
(3) The platform foundation must be firm and the unit must be secured with anchor bolts.
(4) In case of installation on a roof subject to strong wind, countermeasures must be taken to prevent the unit from being blown over.

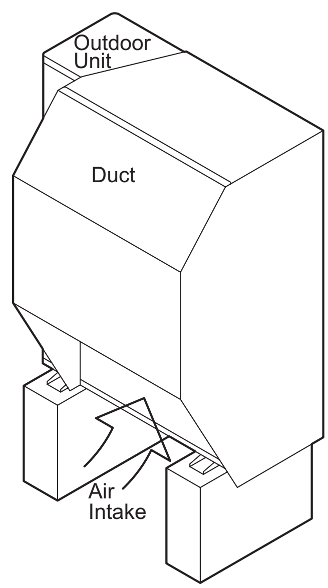


Fig. 1-9

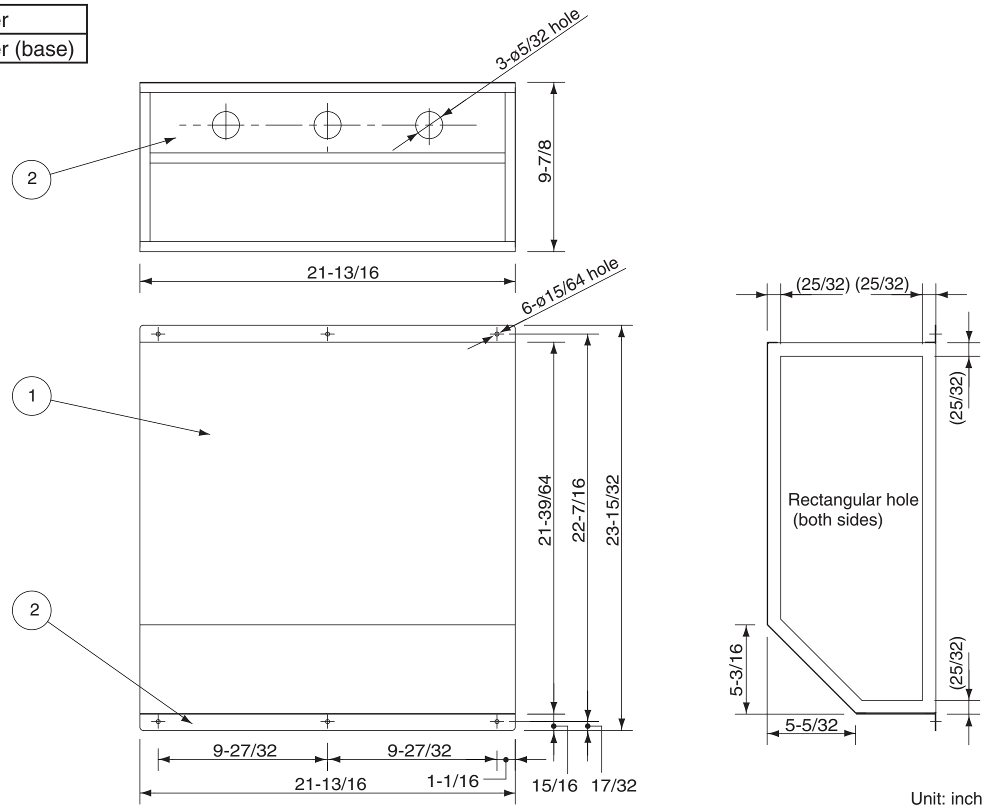
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3-5. Dimensions of Wind Ducting

Reference diagram for air-discharge chamber (field supply)

For U-26PE(S)1U6 / U-36PE(S)1U6 unit

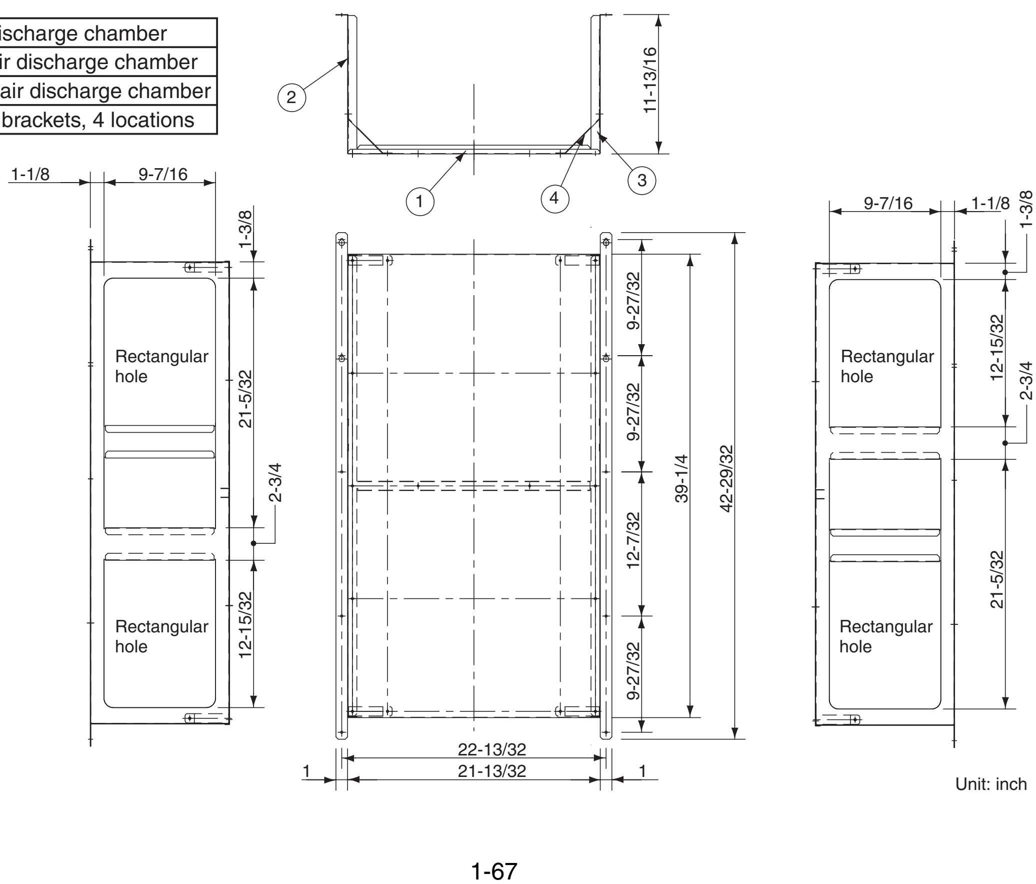
①	Air discharge chamber
②	Air discharge chamber (base)



Note: In snowy regions, if there is concern that snow may enter the air discharge chamber, remove the base of the chamber (10 screws) before using.

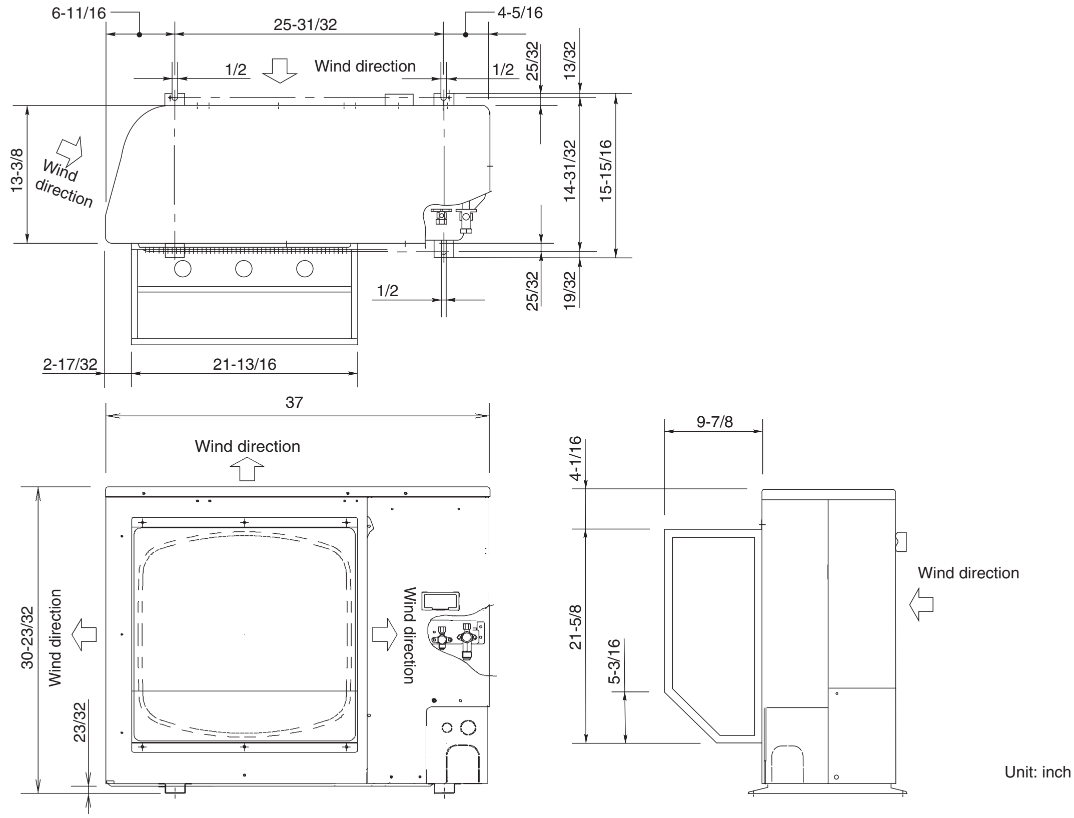
For U-42PE(S)1U6 unit

①	Unit front, air discharge chamber
②	Unit left side, air discharge chamber
③	Unit right side, air discharge chamber
④	Reinforcement brackets, 4 locations

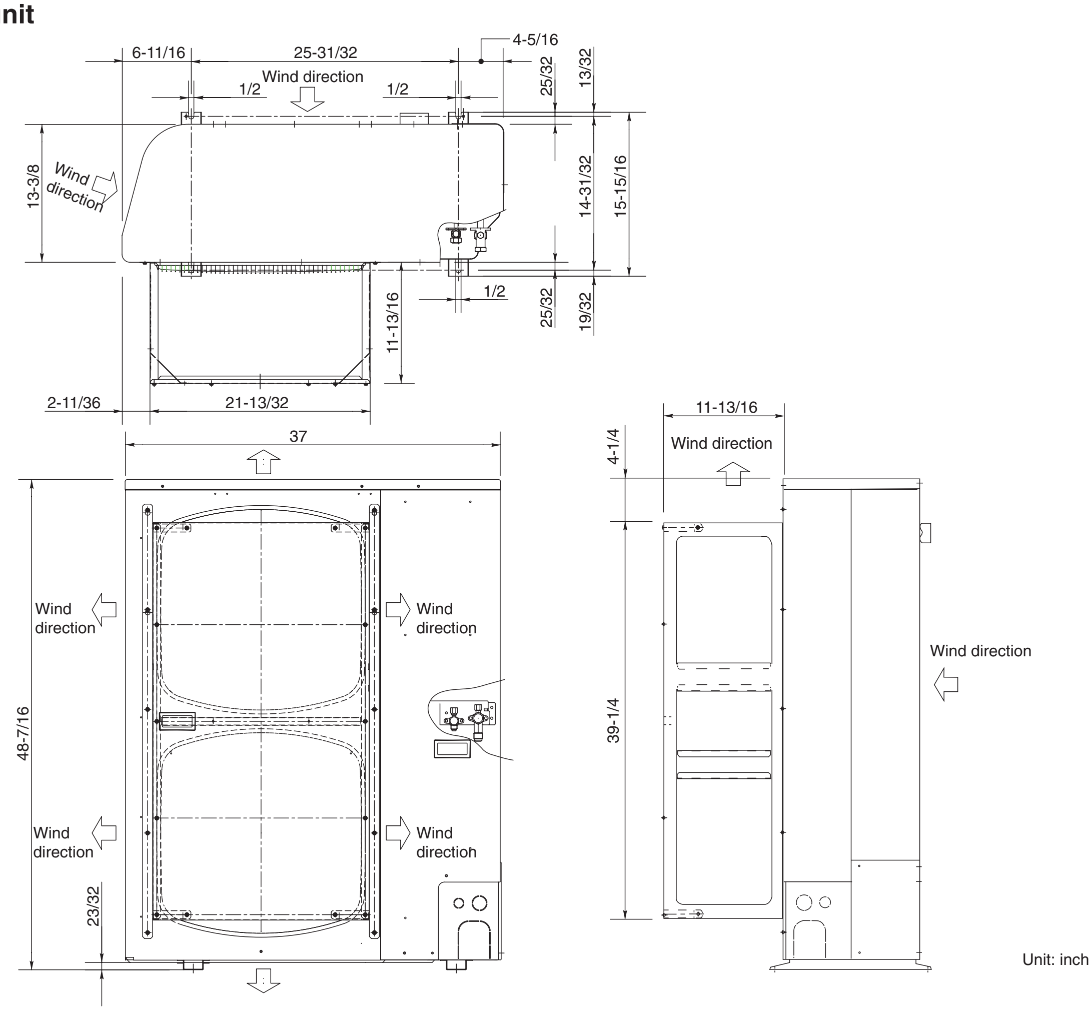


Dimensions of Outdoor Unit with air-discharge chamber (field supply)

U-26PE(S)1U6 / U-36PE(S)1U6 unit



U-42PE(S)1U6 unit



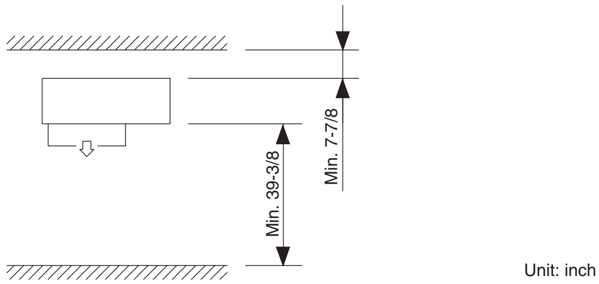
Reference diagram for air-discharge chamber (field supply)

U-26PE(S)1U6 / U-36PE(S)1U6 / U-42PE(S)1U6

Required space around outdoor unit

If the air discharge chamber is used, the space shown below must be secured around the outdoor unit.
If the unit is used without the required space, a protective device may activate, preventing the unit from operating.

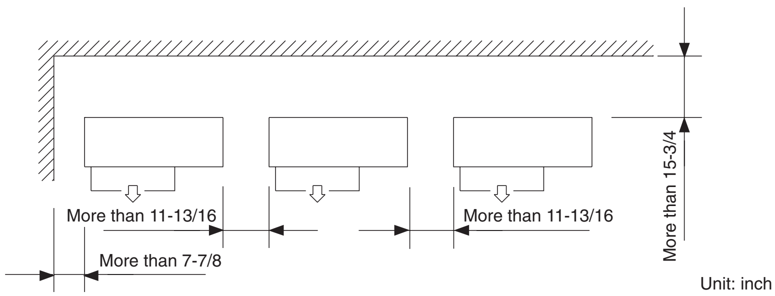
(1) Single-unit installation



CAUTION The top and both sides must remain open. If there are obstacles to the front and rear of the outdoor unit, the obstacle at either the front or rear must be no taller than the height of the outdoor unit.

(2) Multiple-unit installation

- Installation in lateral rows

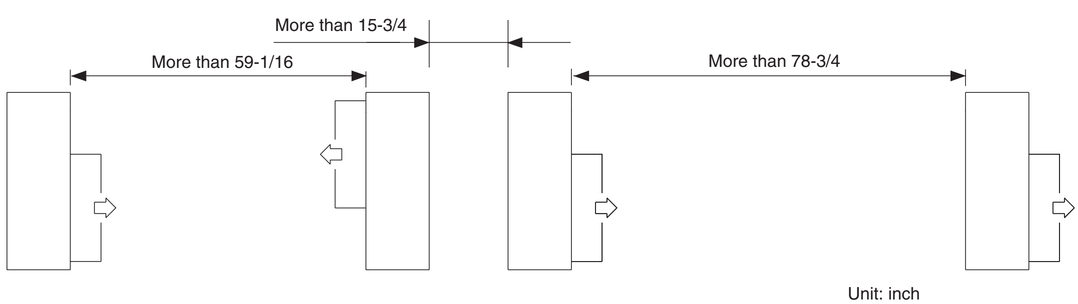


CAUTION The front and top must remain open.
The obstacles must be no taller than the height of the outdoor unit.

- Installation in front-rear rows

Installation with intakes facing outlets

Installation with intakes facing intakes or outlets facing outlets



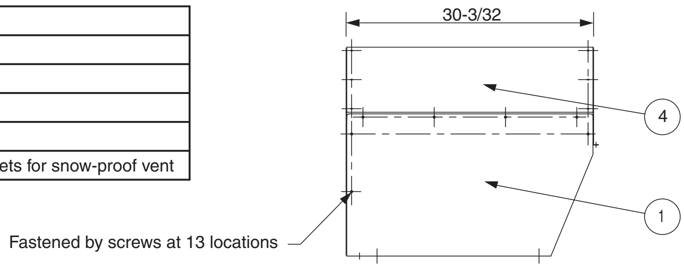
CAUTION The front and both sides must remain open.

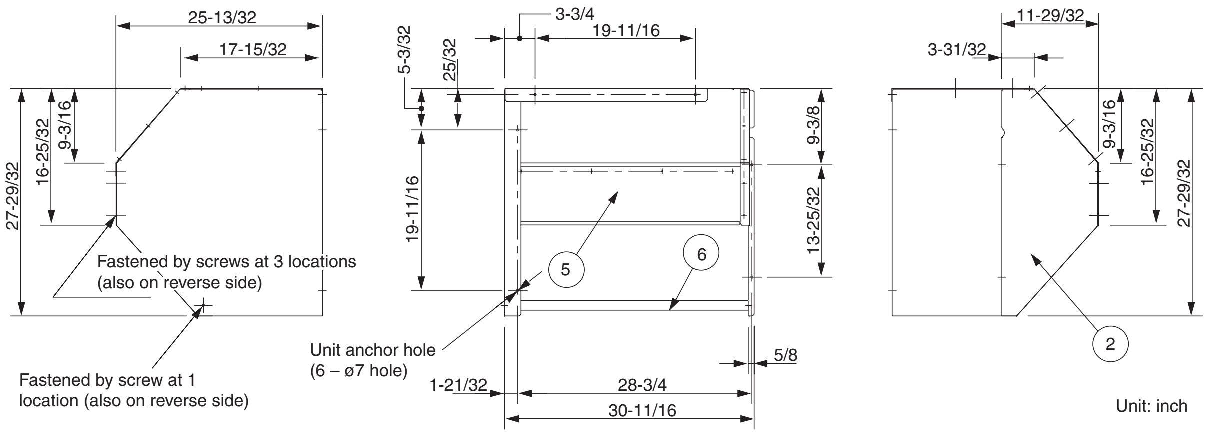
3-6. Dimensions of Snow Ducting

Reference diagram for snow-proof vents (field supply)

For U-26PE(S)1U6 / U-36PE(S)1U6 unit

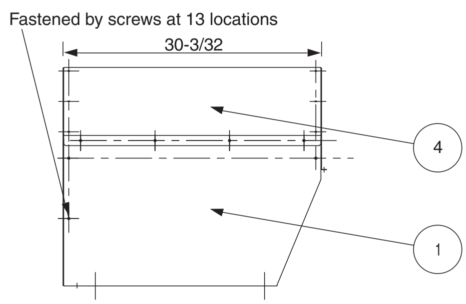
①	Unit top, snow-proof vent
②	Unit left side
③	Unit right side
④	Unit reverse side
⑤	Unit reverse side
⑥	Unit sides, reinforcement brackets for snow-proof vent

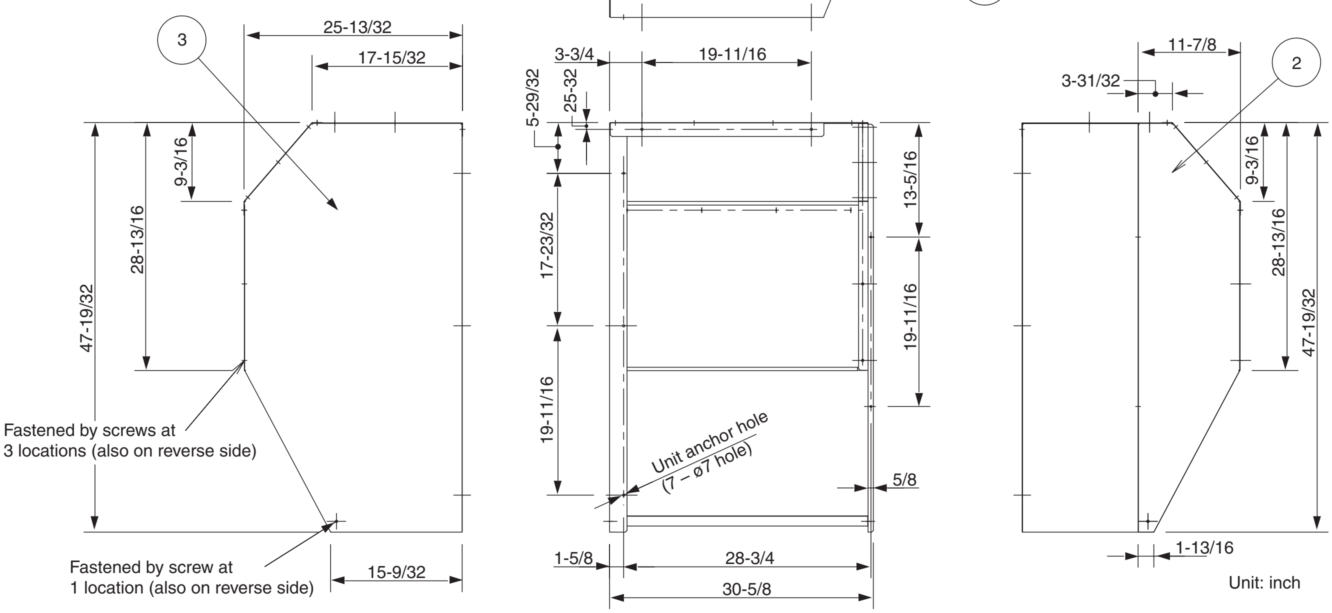




For U-42PE(S)1U6 unit

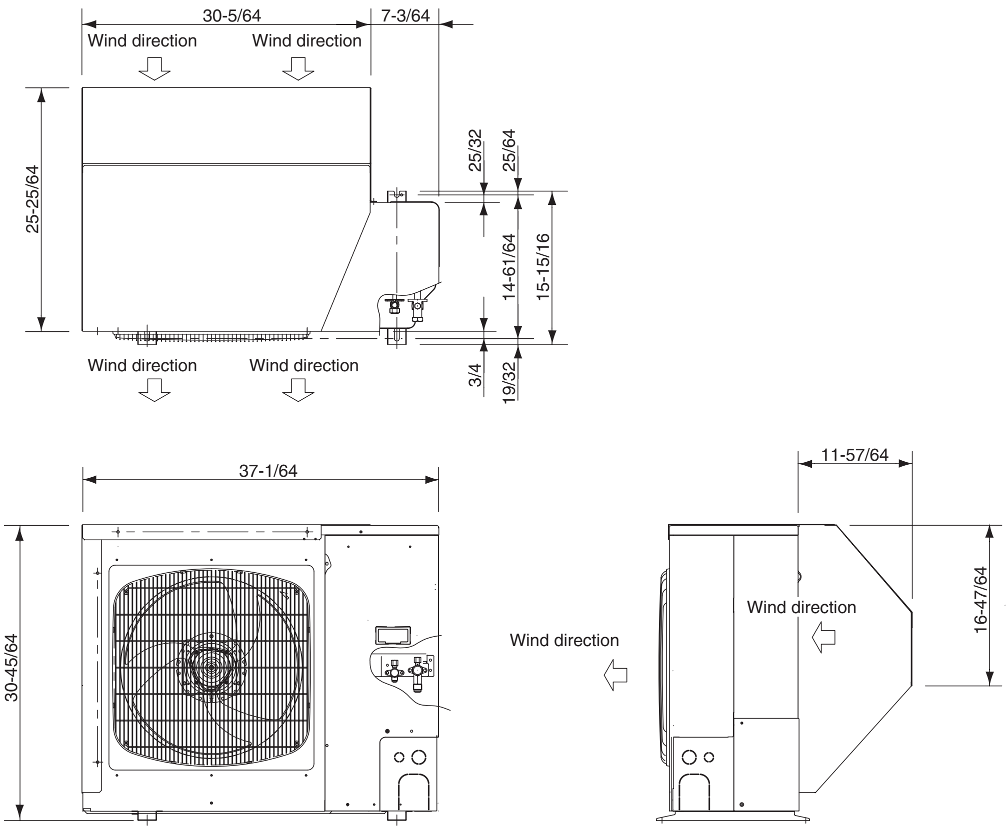
①	Unit top, snow-proof vent
②	Unit left side
③	Unit right side
④	Unit reverse side
⑤	Unit reverse side
⑥	Unit sides, reinforcement brackets for snow-proof vent





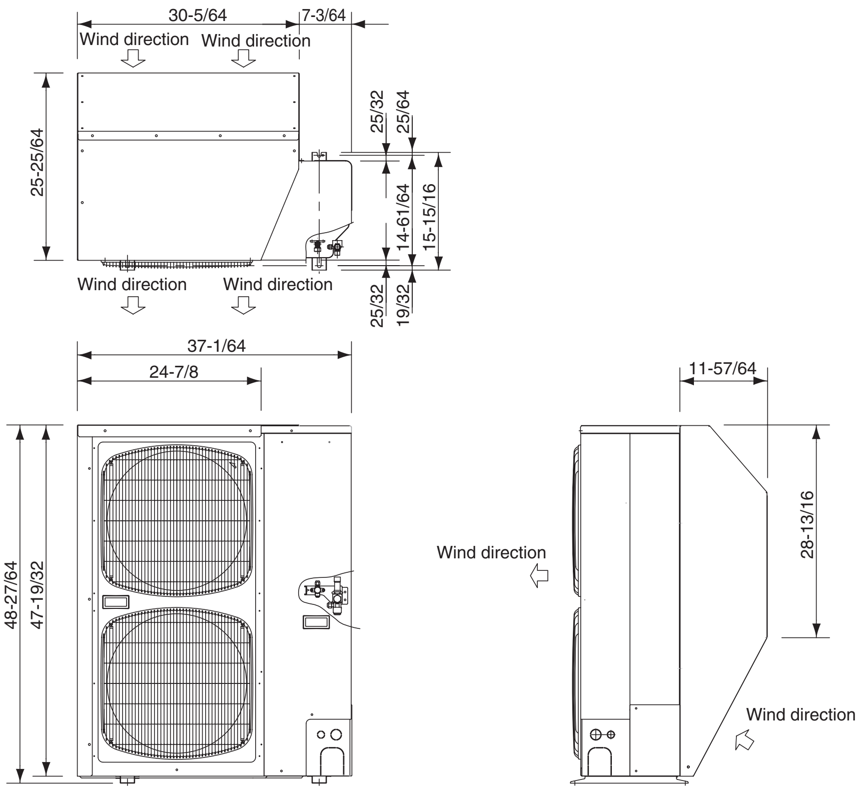
Dimensions of outdoor unit with snow-proof vents (field supply)

U-26PE(S)1U6 / U-36PE(S)1U6 unit



Unit: inch

U-42PE(S)1U6 unit



Unit: inch

Reference diagram for snow-proof vents – 1

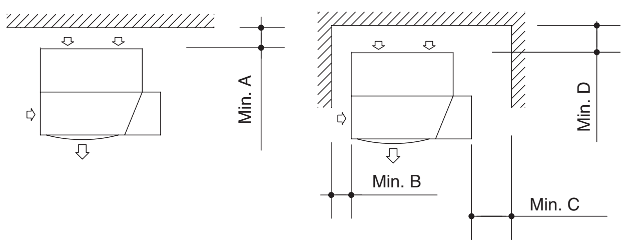
Space requirements for setting – (1)

U-26PE(S)1U6 / U-36PE(S)1U6 / U-42PE(S)1U6

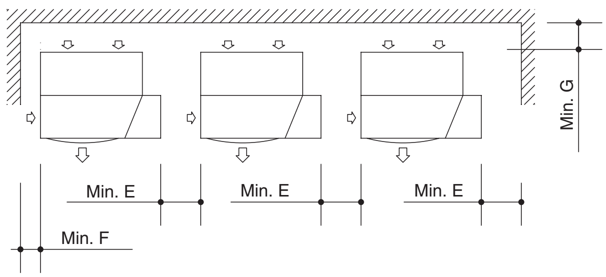
[Obstacle to the rear of unit]

- Top is open:

(1) Single-unit installation (2) Obstacles on both sides



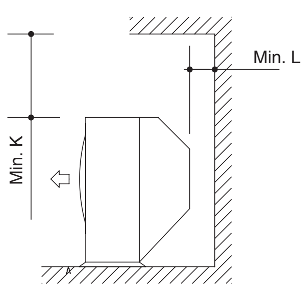
(3) Multiple-unit installation (2 or more units)



A	5-29/32
B	5-29/32
C	11-13/16
D	7-7/8
E	11-13/16
F	5-29/32
G	7-7/8

Note:
In cases 2 and 3 the height of the obstacle must be no taller than the height of the outdoor unit.

- Top is blocked by an obstacle:

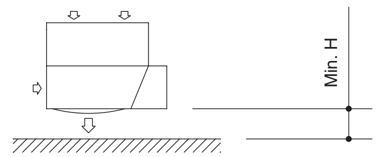


L	K
19-11/16	5-29/32

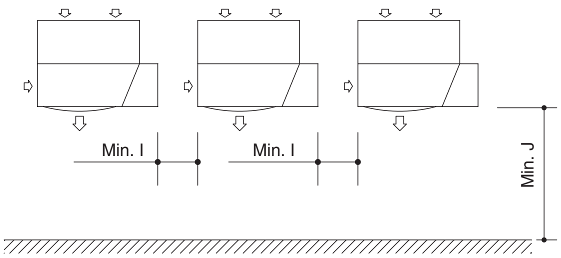
[Obstacle to the front of unit]

- Top is open:

(1) Single-unit installation

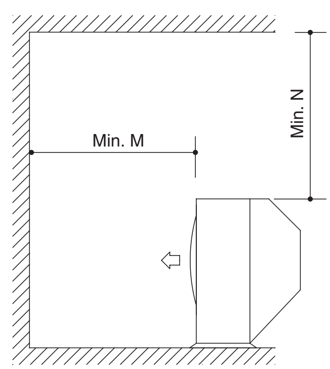


(2) Multiple-unit installation (2 or more units)



H	I	J
19-11/16	11-13/16	39-3/8

- Top is blocked by an obstacle:



M	N
39-3/8	39-3/8

Unit: inch

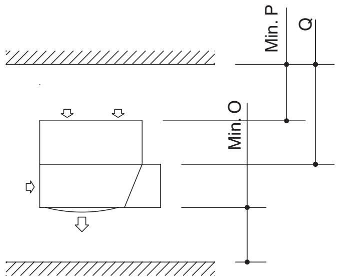
Reference diagram for snow-proof vents – 2

Space requirements for setting – (2)
U-26PE(S)1U6 / U-36PE(S)1U6 / U-42PE(S)1U6

[Obstacles to the front and rear of unit]

- The top and both sides must remain open. Either the obstacle to the front or the obstacle to the rear must be no taller than the height of the outdoor unit.

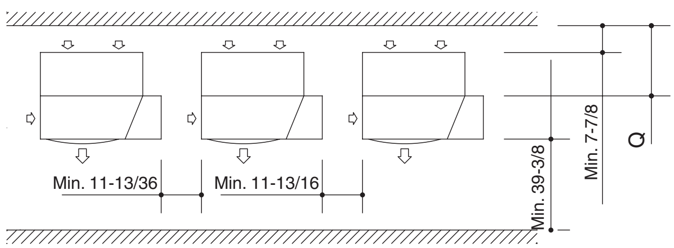
(1) Single-unit installation



Dimension Q
If a snow protection duct is attached after the unit is installed, verify that dimension Q is 19-11/16 in. or more.

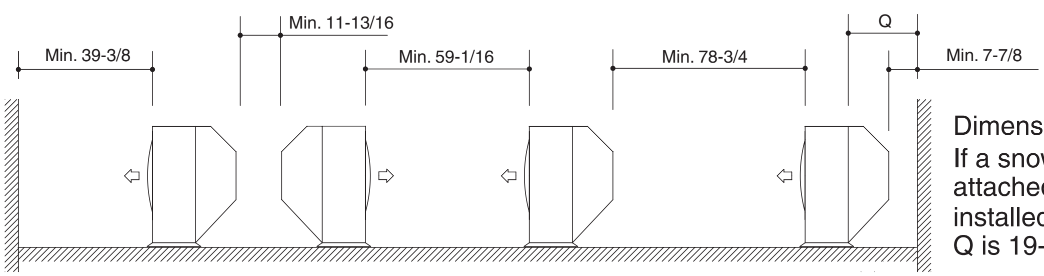
O	P
39-3/8	5-29/32

(2) Obstacles on both sides



[Installation in front-rear rows]

- The top and both sides must remain open. Either the obstacle to the front or the obstacle to the rear must be no taller than the height of the outdoor unit.



Dimension Q
If a snow protection duct is attached after the unit is installed, verify that dimension Q is 19-11/16 in. or more.

Unit: inch

4. HOW TO INSTALL THE OUTDOOR UNIT

4-1. Installing the Outdoor Unit

- Use concrete or a similar material to create the base, and ensure good drainage.
- Ordinarily, ensure a base height of 2". or more. If a drain pipe is used, or for use in cold-weather regions, ensure a height of 6". or more at the feet on both sides of the unit. (In this case, leave clearance below the unit for the drain pipe, and to prevent freezing of drainage water in cold-weather regions.)
- Refer to the Fig. 1-10 for the anchor bolt dimensions.
- Be sure to anchor the feet with the anchor bolts (M10). In addition, use anchoring washers on the top side. (Use large square 32×32 SUS washers with diameters of 10.) (Field supply)

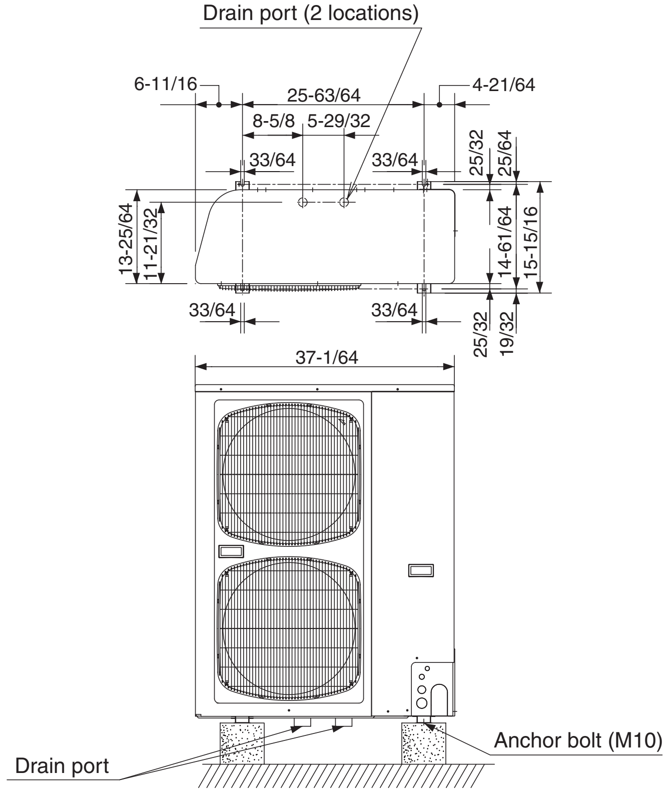


Fig. 1-10

1

4-2. Drainage Work

Follow the procedure below to ensure adequate draining for the outdoor unit.

- For the drain port dimensions, refer to the figure at right.
- Ensure a base height of 6 in. or more at the feet on both sides of the unit.

4-3. Routing the Tubing and Wiring

- The tubing and wiring can be extended out in 4 directions: front, rear, right, and down.
- The service valves are housed inside the unit. To access them, remove the inspection panel. (To remove the inspection panel, remove the 3 screws, then slide the panel downward and pull it toward you.)

(1) If the routing direction is through the front, rear, or right, use a nipper or similar tool to cut out the knockout holes for the inter-unit control wiring outlet, power wiring outlet, and tubing outlet from the appropriate covers A and B.

(2) If the routing direction is down, use a nipper or similar tool to cut out the lower flange from cover A.

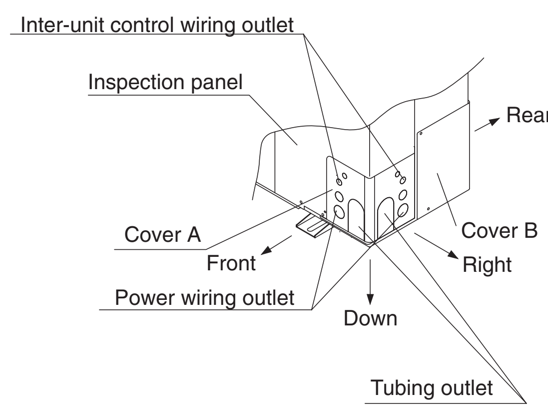


Fig. 1-11

CAUTION

- **Route the tubing so that it does not contact the compressor, panel, or other parts inside the unit. Increased noise will result if the tubing contacts these parts.**
- **When routing the tubing, use a tube bender to bend the tubes.**

■ **Indoor Unit**

5. SELECTING THE INSTALLATION SITE

5-1. Indoor Unit

AVOID:

- areas where leakage of flammable gas may be expected.
- places where large amounts of oil mist exist.
- direct sunlight.
- locations near inverter lamps which may affect the performance of the unit.
- locations near heat sources which may affect the performance of the unit.
- locations where external air may enter the room directly. This may cause “sweating” on the air discharge ports, causing them to spray or drip.
- locations where the remote controller will be splashed with water or affected by dampness or humidity.
- installing the remote controller behind curtains or furniture.
- locations where the receiver in the indoor unit is exposed to the inverter lamp light. Faulty operation of the unit occurs.

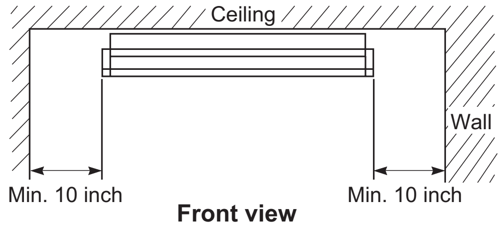
DO:

- select an appropriate position from which every corner of the room can be uniformly cooled.
- select a location where the ceiling is strong enough to support the weight of the unit.
- select a location where tubing and drain pipe have the shortest run to the outdoor unit.
- allow room for operation and maintenance as well as unrestricted air flow around the unit.
- install the unit within the maximum elevation difference above or below the outdoor unit and within a total tubing length (L) from the outdoor unit as detailed in the installation instructions packed with the outdoor unit.
- allow room for mounting the remote controller about 3 ft. off the floor, in an area that is not in direct sunlight nor in the flow of cool air from the indoor unit.

NOTE

Air delivery will be degraded if the distance from the floor to the ceiling is greater than 10 ft.

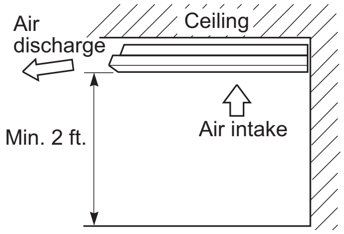
Ceiling Type



Front view

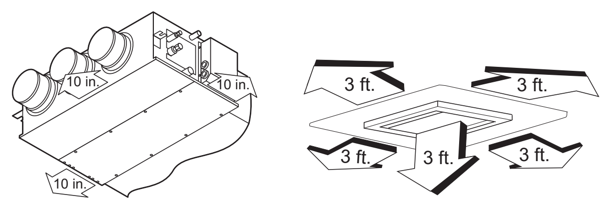
NOTE

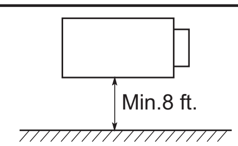
The rear of the indoor unit can be installed flush against the wall.



Side view

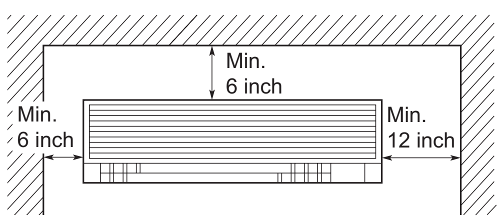
Low Silhouette Ducted Type
4-Way Cassette Type





Shows Low Silhouette Ducted Type only

Wall Mounted Type



6. HOW TO INSTALL THE INDOOR UNIT

■ **4-Way Cassette Type (U1 Type)**

6-1. Suspending the Indoor Unit

This unit uses a drain pump. Use a level gauge to check that the unit is level.

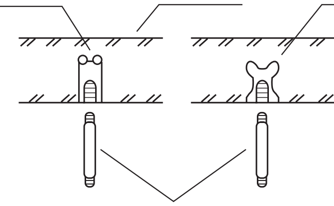


Fig. 1-12

6-2. Preparation for Suspending

(1) Fix the suspension bolts securely in the ceiling using the method shown in the diagrams (Figs. 1-12 and 1-13), by attaching them to the ceiling support structure, or by any other method that ensures that the unit will be securely and safely suspended.

(2) Follow Fig. 1-13 and Table 1-4 to make the holes in the ceiling.

1

Table 1-4 Unit: inch (mm)

Type \ Length	A	B
S-26PU1U6 (CZ-24KPU1U)	32-9/32 (820)	22-9/32 (566)
S-36PU1U6, S-42PU1U6 (CZ-36KPU1U)	43-11/16 (1,110)	33-11/16 (856)

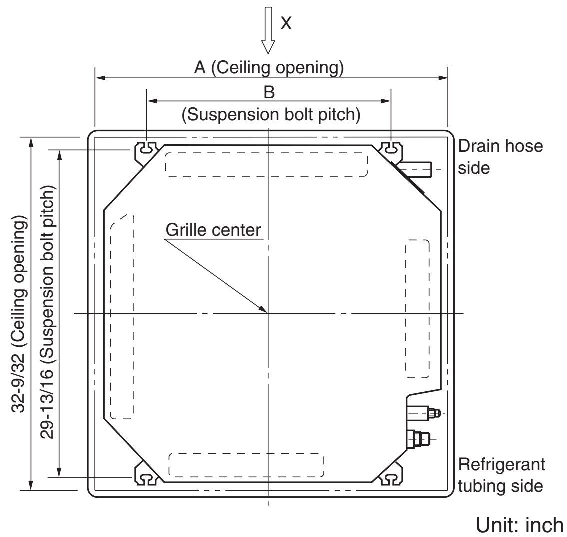


Fig. 1-13

(3) Determine the pitch of the suspension bolts using the supplied full-scale installation diagram. The diagram and table (Fig. 1-14 and Table 1-5) show the relationship between the positions of the suspension fitting, the unit, and the panel.

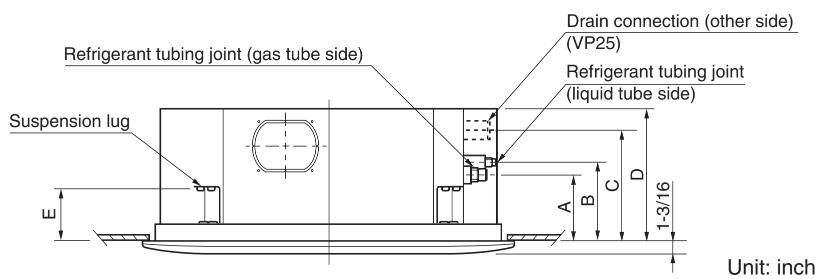


Fig. 1-14

Table 1-5 Unit: inch (mm)

Type \ Length	A	B	C	D	E
S-26PU1U6 (CZ-24KPU1U)	6-3/16 (157)	7-5/32 (182)	10-9/32 (261)	12-1/8 (308)	4-7/8 (124)
S-36PU1U6, S-42PU1U6 (CZ-36KPU1U)	6-3/16 (157)	7-5/32 (182)	11-15/32 (291)	13-1/16 (338)	4-7/8 (124)

6-3. Placing the Unit Inside the Ceiling

(1) When placing the unit inside the ceiling, determine the pitch of the suspension bolts using the supplied full-scale installation diagram. (Fig. 1-15)
The size of the opening for the indoor unit can be confirmed by attaching the full-scale installation diagram beneath the unit. (Fig. 1-15)
Tubing and wiring must be laid inside the ceiling when suspending the unit. If the ceiling is already constructed, lay the tubing and wiring into position for connection to the unit before placing the unit inside the ceiling.

(2) The length of each suspension bolt must be appropriate for a distance between the bottom of the bolt and the bottom of the ceiling of 5/8" or more as shown in Fig. 1-15.

(3) Thread the 2 hexagonal nuts (field supply) and washers onto the 4 suspension bolts as shown in Fig. 1-16.
Use 2 sets of nuts and washers (upper and lower), so that the unit will not fall off the suspension lugs.

(4) Remove the protective cardboard used to protect the fan parts during transport.

(5) Adjust the distance between the unit and surface of the ceiling. (1-7/8") (Fig. 1-15)

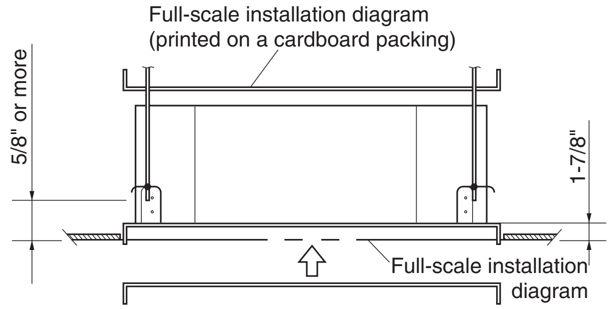


Fig. 1-15

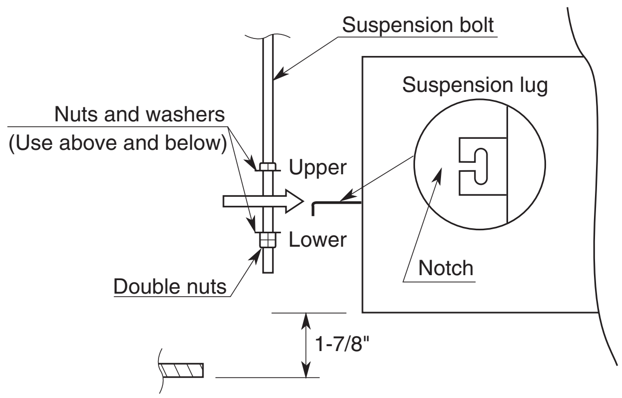


Fig. 1-16

1

1

6-4. Installing the Drain Piping

(1) Prepare standard hard PVC pipe for the drain and use the supplied drain hose and hose band to prevent water leaks.
The PVC pipe must be purchased separately. The transparent part allows you to check drainage. (Fig. 1-17)

CAUTION

Tighten the hose clamps so their locking nuts face upward. (Fig. 1-17)

(2) After checking the drainage, wrap the supplied packing and drain pipe insulator around the pipe. (Fig. 1-18)

NOTE

Ensure the drain pipe has a downward gradient (1/100 or more) and that there are no water traps.

CAUTION

- **Do not install an air bleeder tube, as this may cause water to spray from the drain tube outlet. (Fig. 1-19)**
- **If it is necessary to increase the height of the drain pipe, the section directly after the connection port can be raised a maximum of 19-1/2". Do not raise it any higher than 19-1/2", as this could result in water leaks. (Fig. 1-20)**
- **Do not install the pipe with an upward gradient from the connection port. This will cause drain water to flow backwards and leak when the unit is stopped. (Fig. 1-21)**
- **Do not apply force to the piping on the unit side when connecting the drain pipe. The pipe should not be allowed to hang unsupported from its connection to the unit. Fasten the pipe to a wall, frame, or other support as close to the unit as possible. (Fig. 1-22)**
- **Provide insulation for any drain pipe that is run indoors.**

Refer to "■ SUPPLEMENT ON DRAIN PIPING".

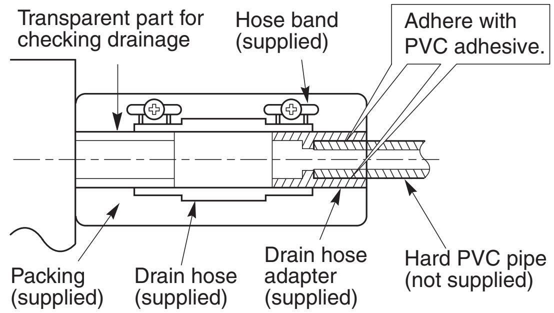


Fig. 1-17

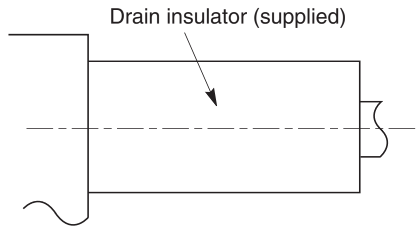


Fig. 1-18

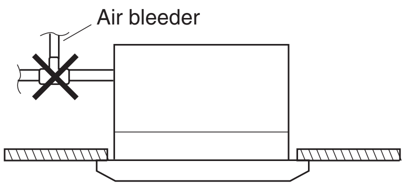


Fig. 1-19

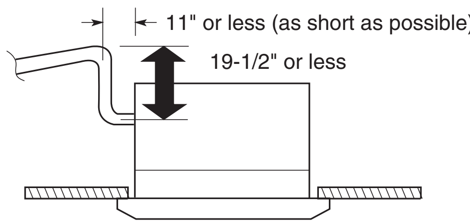


Fig. 1-20

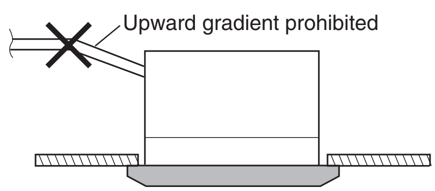


Fig. 1-21

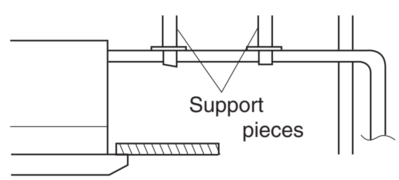


Fig. 1-22

6-5. Checking the Drainage

After wiring and piping are completed, use the following procedure to check that the water will drain smoothly. For this, prepare a bucket and wiping cloth to catch and wipe up spilled water.

WARNING

Do not supply power to the unit until the tubing and wiring to the outdoor unit are completed.

(1) Take off the tube cover and through the opening, slowly pour about 0.3 gal of water into the drain pan to check drainage.

(2) Do Test Run to check the drainage after completing installation. When performing Test Run, refer to the installation instructions attached to the outdoor unit.

CAUTION

Be careful since the fan will start turning when checking the drainage.

(3) After drain checking is finished, return the Operation Selector switch to the RUN position (ON position) and remount the tube cover.

WARNING

To mount the tube cover, use 5/16" (4 × 8 mm) tapping screws. Do not use long screws as they may puncture the drain pan and cause water leakage.

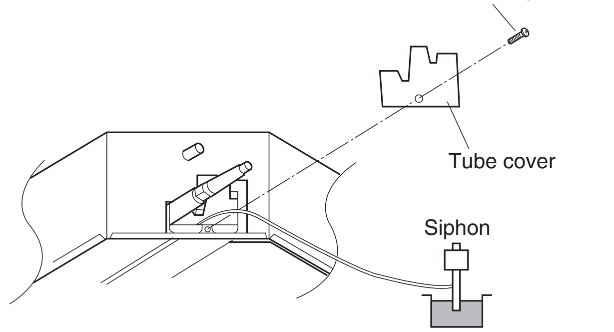


Fig. 1-23

■ Ceiling Panel

CAUTION

Never touch or attempt to move the air direction louver by hand or you may damage the unit. Instead, use the remote controller if you want to change the direction or air flow.

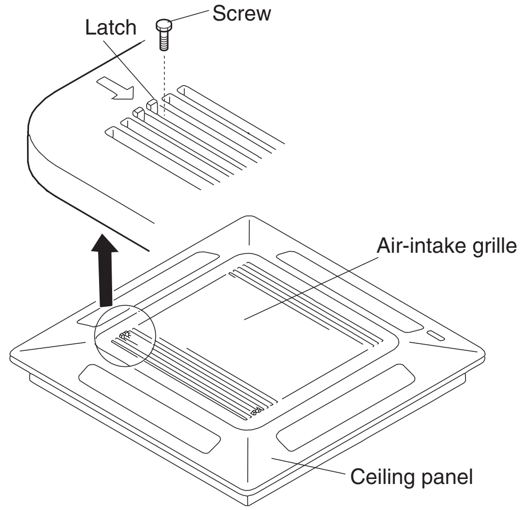


Fig. 1-24

6-6. Before Installing the Ceiling Panel

(1) Remove the air-intake grille and air filter from the ceiling panel. (Figs. 1-24 and 1-25)

(a) Remove the 2 screws on the latch of the air-intake grille. (Fig. 1-24)

(b) Press on the 2 latches of the air-intake grille with your thumbs in the direction of the arrow to open the grille. (Fig. 1-24)

(c) With the air-intake grille open about 45°, remove the safety cord (hook on the grille side). (Fig. 1-25)

(d) Pull the air-intake grille towards you to remove it from the ceiling panel.

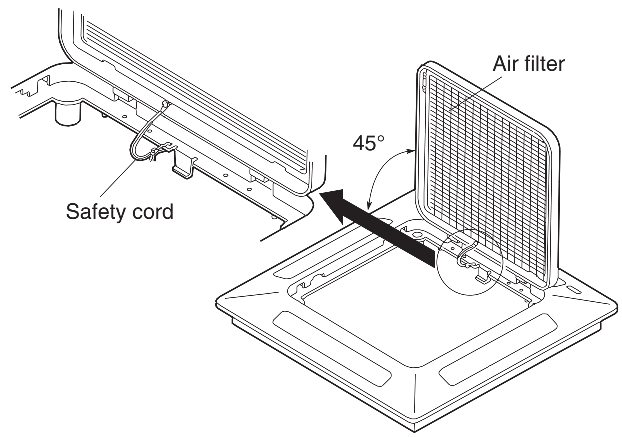


Fig. 1-25

(2) Pull down the two panel catches on the body of the indoor unit body. (Fig. 1-26)

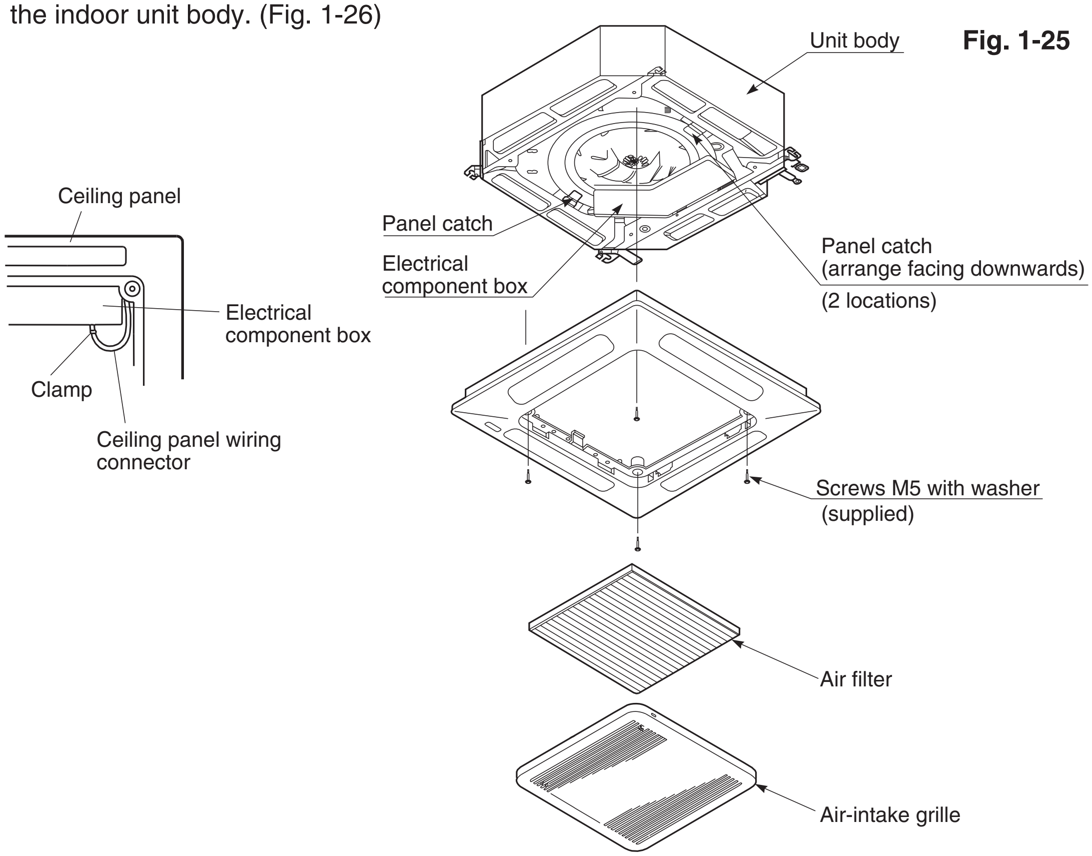


Fig. 1-26

6-7. Installing the Ceiling Panel

(1) Lift the ceiling panel and position it to align the panel hook with the panel catch of the indoor unit.

NOTE

The ceiling panel must be mounted in the correct direction. Note that the 2 catches of the panel differ in size. Confirm that the catches are correctly matched between the ceiling panel and the indoor unit body.

(2) Next, check to see that the ceiling panel is properly aligned with the seamline of the ceiling. If it is not, remove the ceiling panel and slightly readjust the indoor unit body to the proper suspension point.

(3) When the ceiling panel has been properly aligned, use the supplied 4 mounting screws (M5) with washers to permanently fasten the ceiling panel.

(4) Install the wiring connector from the ceiling panel to the connector in the electrical component box of the indoor unit. After installing the connector, use the clamp on the body of the indoor unit to secure the wiring.

(5) Install the air filter and air-intake grille by performing the steps in section 6-6 in reverse.

NOTE

Hook again the safety cord in its original position before closing the air-intake grille.

6-8. When Removing the Ceiling Panel for Servicing

When removing the ceiling panel for servicing, remove the air-intake grille and air filter, disconnect the wiring connector inside the electrical component box, and then remove the 4 mounting screws.

6-9. Duct for Fresh Air

- There is a duct connection part on side of the indoor unit. (Fig. 1-27)
- Air-intake plenum (including Duct connection box and flange) are attached to the indoor unit when used to take fresh outdoor air.

Air-intake plenum	Type
CZ-26BCU1U	CZ-24KPU1U (S-26PU1U6)
CZ-42BCU1U	CZ-36KPU1U (S-36PU1U6, S-42PU1U6)

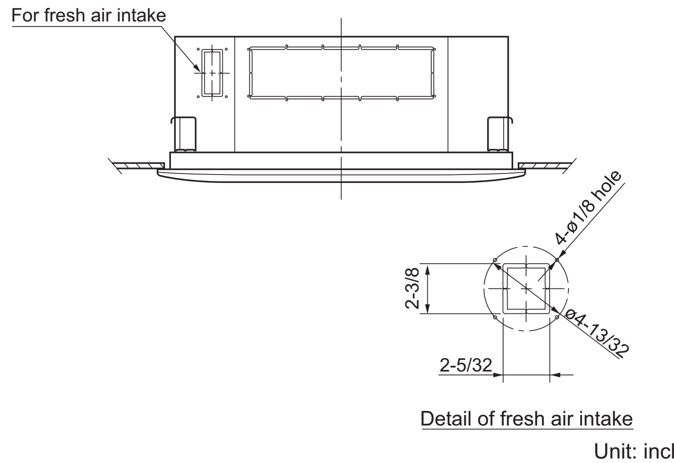


Fig. 1-27

(1) Accessories

- Check that the following parts are in the box when unpacking.

NAME	Q' ty	REMARKS
Screw (M5xL4-7/8")	4	Air-intake plenum (for fastening)
Screw (M4xL4-1/2")	8	Duct connection flange/box (for fastening)
Duct connection box	1	(for fresh air)
Duct connection flange	1	(for connecting fresh air duct)

1

(2) Installation

Installation steps (a) to (d) are the same for both the CZ-26BCU1U and the CZ-42BCU1U. The drawing illustrates installation of air-intake plenum to the CZ-26BCU1U

(a) Installing the air-intake plenum

- Set the air-intake plenum to the indoor unit taking care not to set to the incorrect direction.
- Fasten the air-intake plenum with the supplied screws. (M5 × L4-7/8", 4 pcs)

(b) Installing the duct connection box

- Fasten the duct connection flange to the duct connection box with the accessory screws. (M4 × L1/2", 4 pcs)
- Fit the duct connection box into the rectangular hole of the air-intake plenum and fasten it to the side of the air-intake plenum with the accessory screws. (M4 × L1/2", 4 pcs)

(c) Installing the indoor unit

- Install the indoor unit to the ceiling. (Install the indoor unit according to instructions enclosed with the outdoor unit.)

> ⚠ **CAUTION**
> **When installing in a pre-existing location, install the indoor unit before installing the duct connection box.**

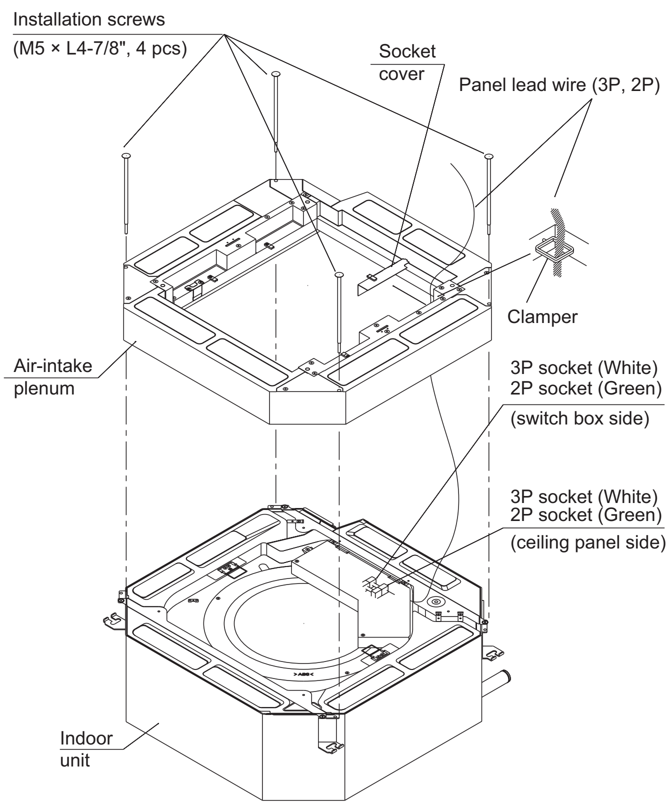


Fig. 1-28

(d) Installing the ceiling panel

- Attach the ceiling panel to the air-intake plenum.
  Drawing the panel downwards sets the panel in position temporarily with the panel catch (at 2 locations).
- Remove the socket cover of the air-intake plenum and pass the 8P sockets through it.
  (Fix the panel lead wire to air-intake plenum side clamper.)
- Connect the 3P socket (white) and 2P socket (green) to the other side of the 3P socket (white) and 2P socket (green) respectively.
- Reattach the socket cover.

Please fix the socket cover located on the switch box after closing the lid for the switch box.

CAUTION

Take adequate precautions when installing onto the ceiling.
The air-intake plenum is especially prone to rupture if struck on it's side.

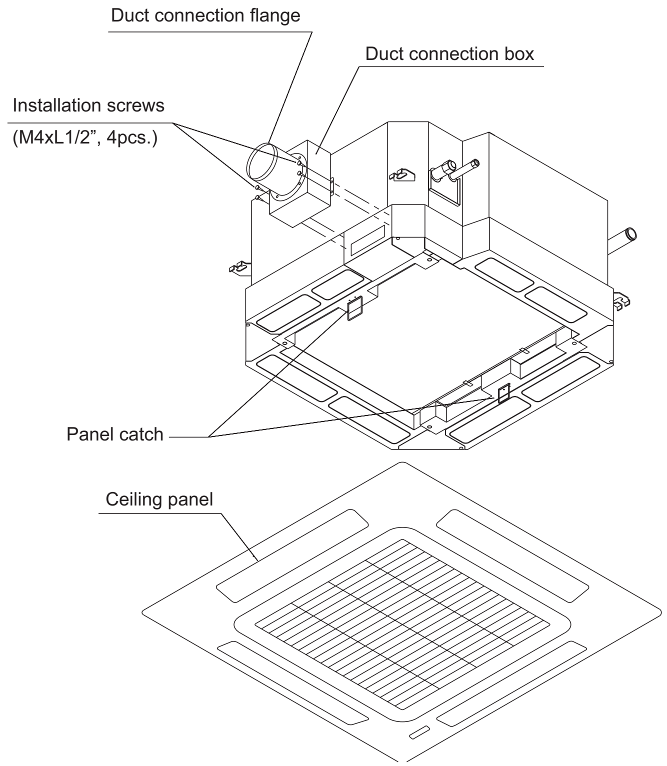


Fig. 1-29

1

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■ **Wall Mounted Type (K1 Type)**

6-10. Removing the Wall Fixture from the Unit

Remove the set screws and take off the rear panel. (Fig. 1-30)

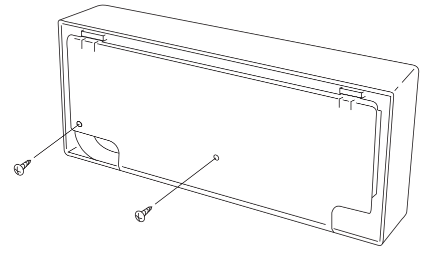


Fig. 1-30

NOTE

Tubing can be extended in 3 directions as shown in Fig. 1-31. Select the direction that provides the shortest run to the outside unit.

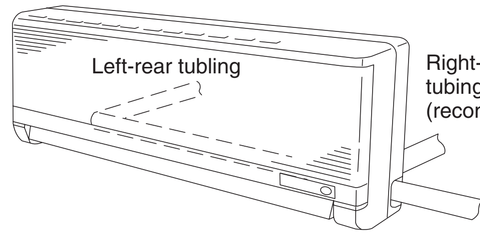


Fig. 1-31

6-11. Selecting and Making a Hole

(1) Remove the rear panel from the indoor unit and place it on the wall at the location selected. Make sure the unit is horizontal using a level gauge or tape measure to measure down from the ceiling.

(2) Determine which side of the unit you should make the hole. (Fig. 1-32)

(3) Before making a hole, check carefully that no studs or pipes are directly run behind the spot to be cut.

CAUTION **Also avoid areas where electrical wiring or conduits are located.**

The above precautions are also applicable if tubing goes through the wall in any other location.

(4) Using a sabre saw, key hole saw or hole-cutting drill attachment, cut a hole in the wall. See Table 1-6 and Fig. 1-33.

Table 1-6

Hole Dia. (inch)
3-3/16"

(5) Measure the thickness of the wall from the inside edge to the outside edge and cut PVC pipe at a slight angle 1/4" shorter than the thickness of the wall. (Fig. 1-34)

(6) Place the plastic cover over the end of the pipe (for indoor side only) and insert in the wall. (Fig. 1-35)

In case of left-rear or right-rear tubing

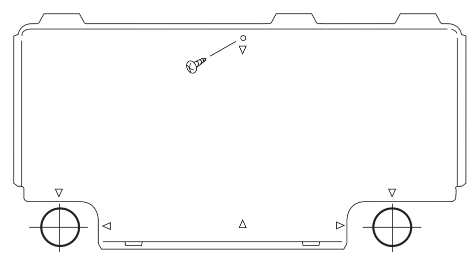


Fig. 1-32

NOTE

Hole should be made at a slight downward slant to the outdoor side.

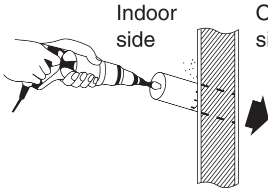


Fig. 1-33

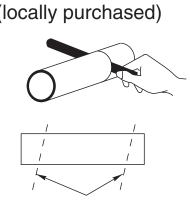


Fig. 1-34

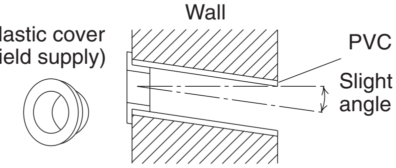


Fig. 1-35

6-12. Installing the Rear Panel on the Wall

Be sure to confirm that the wall is strong enough to suspend the unit.

See either Item a) or b) below depending on the wall type.

a) If Wooden Wall

(1) Attach the rear panel to the wall with the 10 screws provided. (Fig. 1-36)
If you are not able to line up the holes in the rear panel with the beam locations marked on the wall, use toggle bolts to go through the holes on the panel or drill 3/16" dia. holes in the panel over the stud locations and then mount the rear panel.

(2) Double-check with a ruler or level gauge that the panel is level. This is important to install the unit properly. (Fig. 1-37)

(3) Make sure the panel is flush against the wall. Any space between the wall and unit will cause noise and vibration.

b) If Block, Brick, Concrete or Similar Type Wall

Make 3/16" dia. holes in the wall. Insert rawl plugs for appropriate mounting screws. (Fig. 1-38)

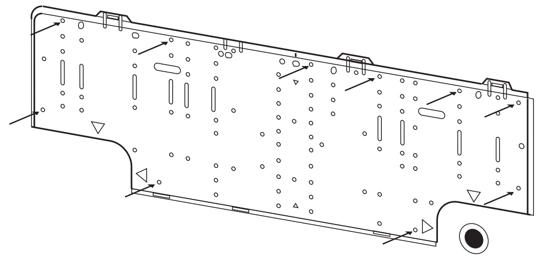


Fig. 1-36

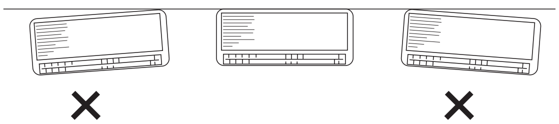


Fig. 1-37

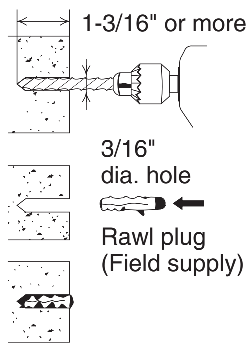


Fig. 1-38

1

1

6-13. Removing the Grille to Install the Indoor Unit

Basically, these models can be installed and wired without removing the grille. **If access to any internal part is needed, follow the steps given below:**

How to remove the grille

(1) Set the 2 flaps in the horizontal position.

(2) Unscrew the 3 screws. (Fig. 1-39a)

(3) Remove the grille.

(a) Hold both corners of the air-intake grille, then pull out and up to open. (Fig. 1-39b)

(b) Use a flathead screwdriver to push up the 3 tabs to remove the grille. (Fig. 1-39b)

(c) Pull the lower part of the grille toward you to remove. (Fig. 1-39a)

How to replace the grille

(1) Close the flaps.

(2) Reinstall the grille into the lower part while aligning its tabs on the upper part. (Fig. 1-40a) Insert the tabs in the slots and push the lower part of the grille back into position.

(3) Press at each of the 5 tabs to completely close the grille. Make sure that the grille and frame are firmly fitted together. (Fig. 1-40b)

6-14. Preparing the Indoor Side Tubing

Arrangement of tubing by directions

(a) Right tubing
The corner of the right frame needs to be cut by a hacksaw or the like. (Fig. 1-41)

(b) Right-rear or left-rear tubing
In this case, the corner of the frame needs not be cut.

To mount the indoor unit on the rear panel:

(a) Hang the 3 mounting slots of the unit on the upper tabs of the rear panel. (Fig. 1-42)

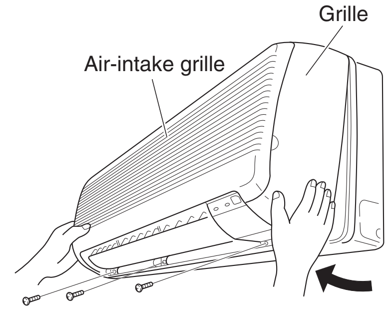


Fig. 1-39a

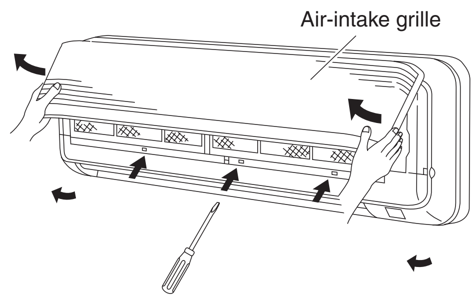
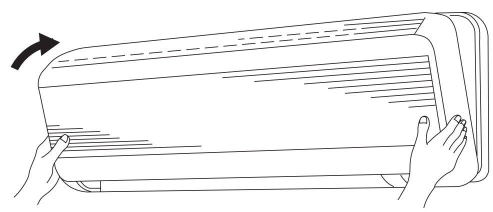
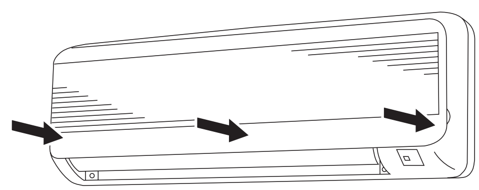


Fig. 1-39b


Fig. 1-40a


Fig. 1-40b

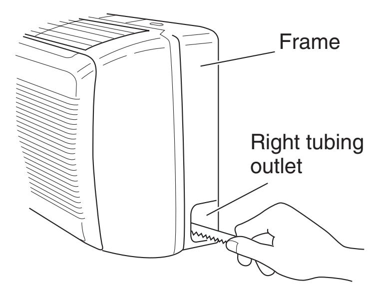


Fig. 1-41

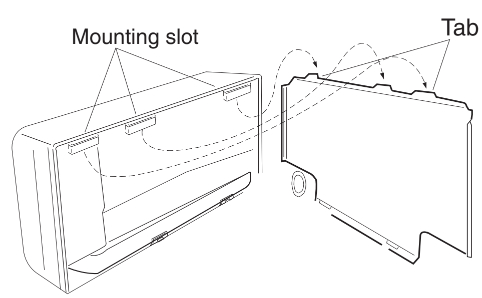


Fig. 1-42

6-15. Wiring Instructions

General Precautions on Wiring

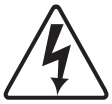
(1) Before wiring, confirm the rated voltage of the unit as shown on its nameplate, then carry out the wiring closely following the wiring diagram.

(2) Provide a power outlet to be used exclusively for each unit. A power supply disconnect and circuit breaker for overcurrent protection should be provided in the exclusive line.

(3) To prevent possible hazards from insulation failure, the unit must be grounded.

(4) All wiring must be connected tightly.

(5) Do not allow wiring to touch refrigerant tubing, compressor, or any moving parts of the fan.



Unauthorized changes in the internal wiring can be very dangerous. The manufacturer will accept no responsibility for any damage or misoperation that occurs as a result of such unauthorized changes.

6-16. Wiring Instructions for Inter-Unit Connections

(1) Insert the inter-unit wiring (according to local electrical codes) into the through-the-wall PVC pipe. Run the wiring toward the indoor side allowing approx. 10 inches to extend from the wall face. (Fig. 1-43)

(2) Route the inter-unit wiring from the back of the indoor unit and pull it toward the front for connection. (Figs. 1-44a and 1-44b)

(3) Connect the inter-unit wiring to the corresponding terminals on the terminal plate (Figs. 1-44a and 1-44b) while referring to the wiring diagram.

(4) Be sure to secure the wiring with the provided clamp.

How to remove the cover plate

To access the terminal plate inside the indoor unit, follow these steps.

(1) Using a Phillips head screwdriver, remove the screw on the cover plate. (Figs. 1-44a and 1-44b)

(2) Remove the cover plate.

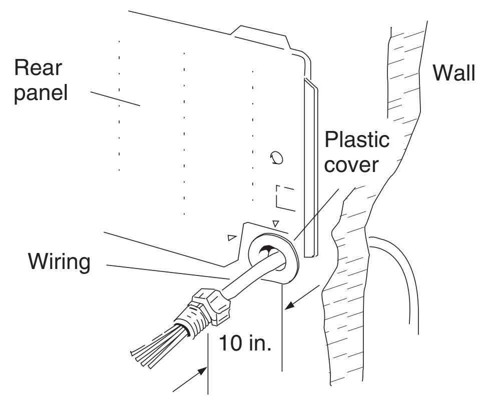


Fig. 1-43

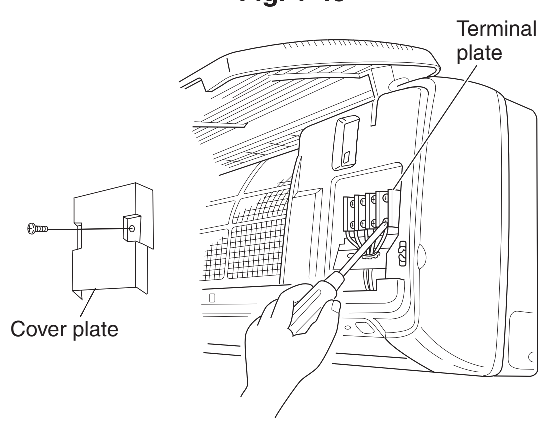


Fig. 1-44a

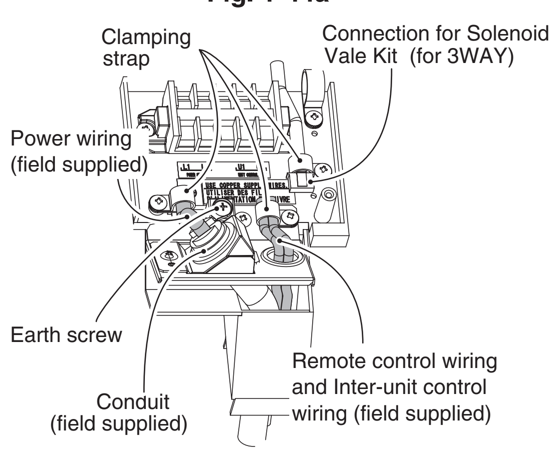


Fig. 1-44b

1

6-17. Shaping the Tubing

(1) Shape the refrigerant tubing so that it can easily go into the hole. (Fig. 1-45)

(2) Push the wiring, refrigerant tubing and drain hose through the hole in the wall. Adjust the indoor unit so it is securely seated on the wall fixture.

(3) Carefully bend the tubing (if necessary) to run along the wall in the direction of the outdoor unit and then insulate to the end of the fittings. The drain hose should come straight down the wall to a point where water runoff will not stain the wall.

(4) Connect the refrigerant tubing to the outdoor unit.(After performing a leak test on the connection, insulate it with insulating tape. (Fig. 1-46))

(5) Assemble the refrigerant tubing, drain hose and inter-unit wiring as shown in Fig. 1-47.

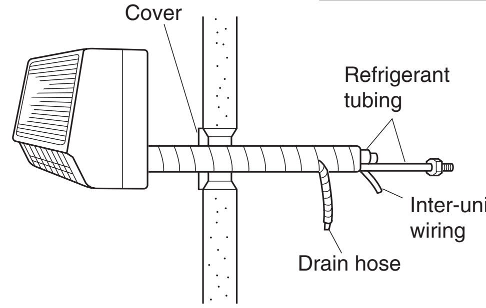


Fig. 1-45

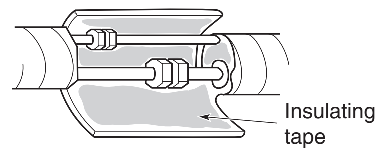


Fig. 1-46

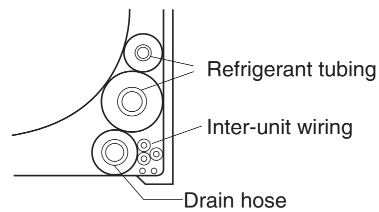


Fig. 1-47

6-18. Installing the Drain Hose

(1) The drain hose should be slanted downward on the outdoor side. (Fig. 1-48)

(2) Never form a trap in the course of the hose.

(3) If the drain hose will run in the room, insulate* the hose so that chilled condensation will not damage furniture or floors. (Fig. 1-49)

* Foamed polyethylene or its equivalent is recommended.

WARNING **Do not supply power to the unit or operate it until all tubing and wiring to the outdoor unit are completed.**

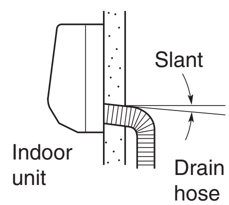


Fig. 1-48

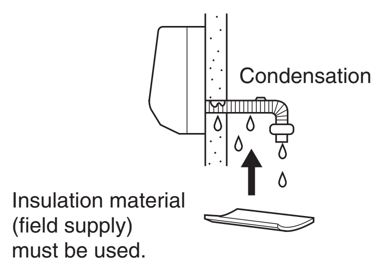


Fig. 1-49

■ **Ceiling Type (T1 Type)**

6-19. Suspending the Indoor Unit

(1) Place the full-scale diagram (supplied) on the ceiling at the spot where you want to install the indoor unit. Use a pencil to mark the drill holes. (Fig. 1-50).

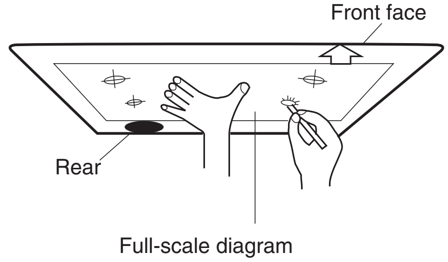


Fig. 1-50

NOTE

Since the diagram is made of paper, it may shrink or stretch slightly because of high temperature or humidity. For this reason, before drilling the holes maintain the correct dimensions between the markings.

(2) Drill holes at the 4 points indicated on the full-scale diagram.

(3) Depending on the ceiling type:

(a) Insert suspension bolts as shown in Fig. 1-51.

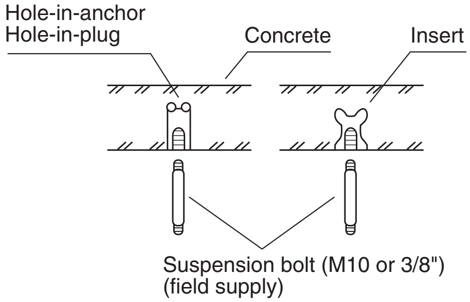


Fig. 1-51

or

(b) Use existing ceiling supports or construct a suitable support as shown in Fig. 1-52.

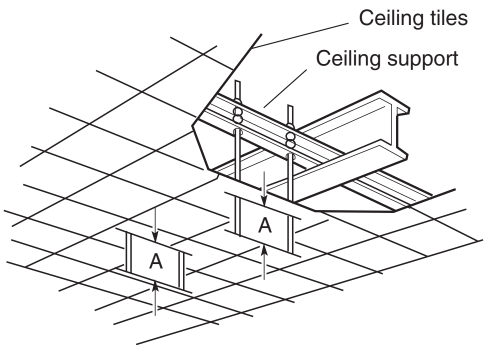


Fig. 1-52

WARNING **It is important that you use extreme care in supporting the indoor unit from the ceiling. Ensure that the ceiling is sufficiently strong enough to support the weight of the unit. Before hanging the ceiling unit, test the strength of each attached suspension bolt.**

(4) Screw in the suspension bolts, allowing them to protrude from the ceiling as shown in Fig. 1-52. The distance of each exposed bolt must be of equal length within 2 inches. (Fig. 1-53)

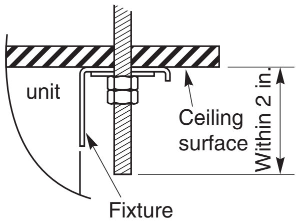


Fig. 1-53

1

(5) Before suspending the indoor unit, remove the 2 screws on the latch of the air-intake grilles, open the grilles, and remove them by pushing the claws of the hinges as shown in Fig. 1-54. Then remove both side panels sliding them along the unit toward the front after removing the two screws which fix them. (Fig. 1-55)

(6) Preparation for suspending the indoor unit. The suspension method varies depending on whether the unit is next to the ceiling or not. (Figs. 1-56 and 1-57)

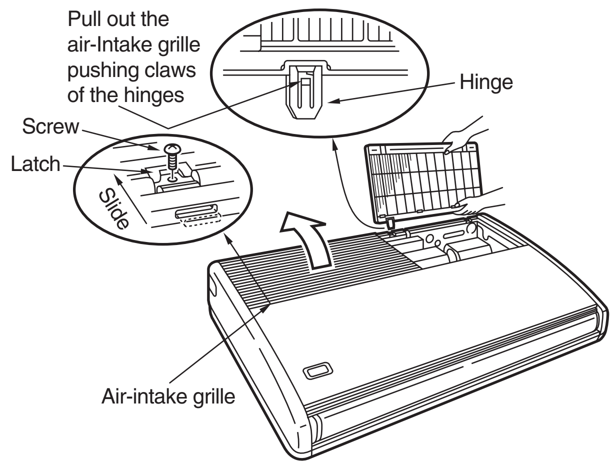


Fig. 1-54

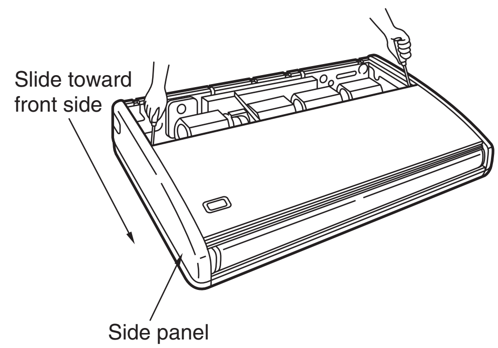


Fig. 1-55

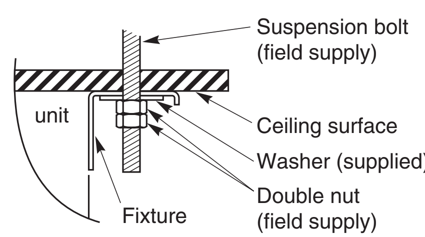


Fig. 1-56

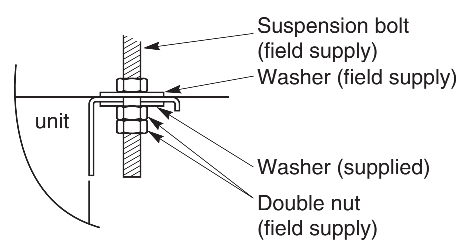


Fig. 1-57

(7) Suspend the indoor unit as follows.

(a) Mount a washer and two hexagonal nuts on each suspension bolt as shown in Fig. 1-58.

(b) Lift the indoor unit with a lifting machine to the ceiling surface, and place it on the washers through the notches, to fix it in place. (Fig. 1-59)

(c) Tighten the two hexagonal nuts on each suspension bolt to suspend the indoor unit as shown in Fig. 1-60.

NOTE

A ceiling surface is not always level. Please confirm that the indoor unit is evenly suspended. For the installation to be correct, leave a clearance of about 3/8" between the ceiling panel and the ceiling surface and fill the gap with an appropriate insulation or filler material.

(8) If the tubing and wiring are to go towards the rear of the unit, make holes in the wall. (Fig. 1-61)

(9) Measure the thickness of the wall from the inside to the outside and cut PVC pipe at a slight angle to fit. Insert the PVC pipe in the wall. (Fig. 1-62)

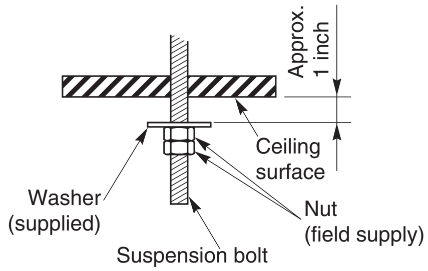


Fig. 1-58

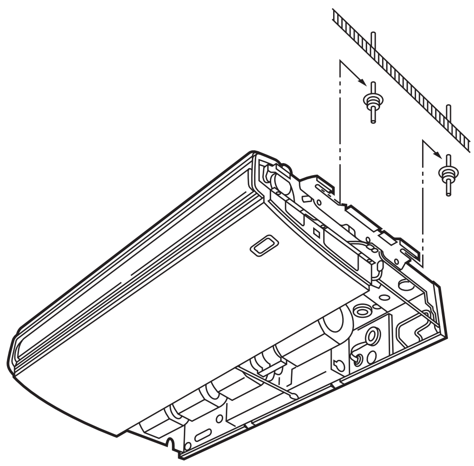


Fig. 1-59

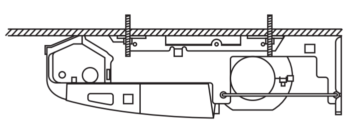


Fig. 1-60

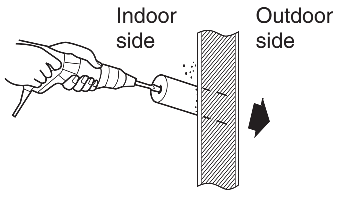


Fig. 1-61

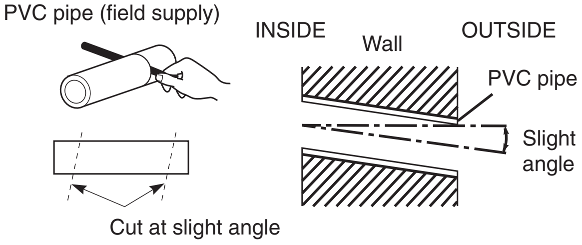


Fig. 1-62

1

6-20. Duct for Fresh Air

There is a duct connection port (knock-out hole) at the right-rear on the panel top of the indoor unit for drawing in fresh air. If it is necessary to draw in fresh air, remove the cover by knocking it out and connect the duct to the indoor unit through the connection port. (Fig. 1-63)
If connection at the right-rear on the panel top is not appropriate, another duct connection port can be made by cutting an opening on the left side of the rear panel of the indoor unit as shown in Fig. 1-64.

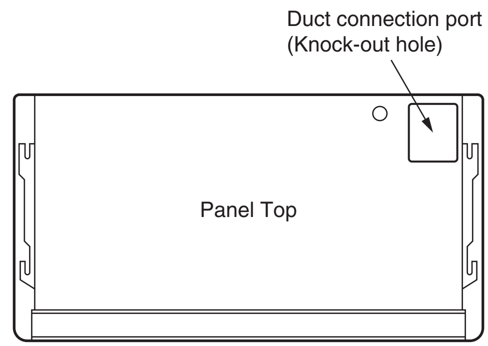
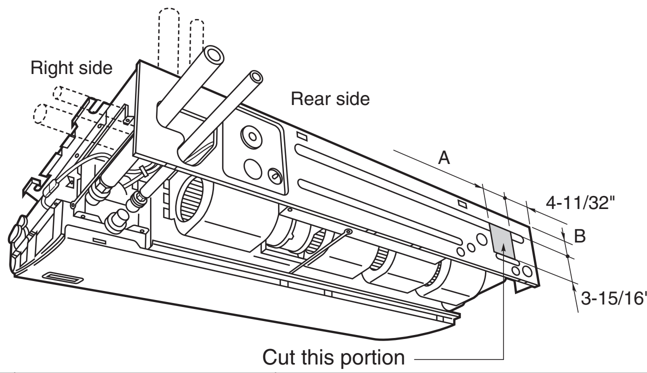


Fig. 1-63

6-21. Installing the Drain Piping

- Prepare a standard PVC pipe for the drain and connect it to the indoor unit drain pipe with the supplied hose clamps to prevent water leaks.
- Connect the drain piping so that it slopes downward from the unit to the outside. (Fig. 1-65)
- Never allow traps to occur in the course of the piping.
- Insulate any piping inside the room to prevent dripping.
- Use the supplied drain pipe to connect the drain pipe with the drain outlet of the indoor unit.
- After connecting the drain pipe securely, wrap the supplied drain pipe insulator around the pipe, seal the gap at the drain socket with the supplied black insulation tape, then secure it with clamps. (Fig. 1-66)
- After the drain piping, pour water into the drain pan to check that the water drains smoothly.

CAUTION **Check local electrical codes and regulations before obtaining wire. Also, check any specified instruction or limitations.**



	S-26PT1U6	S-36PT1U6, S-42PT1U6
A	3-15/16"	7-3/32"
B	1-3/8"	1-31/32"

Fig. 1-64

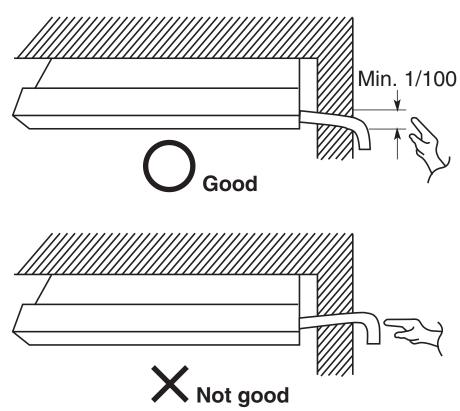


Fig. 1-65

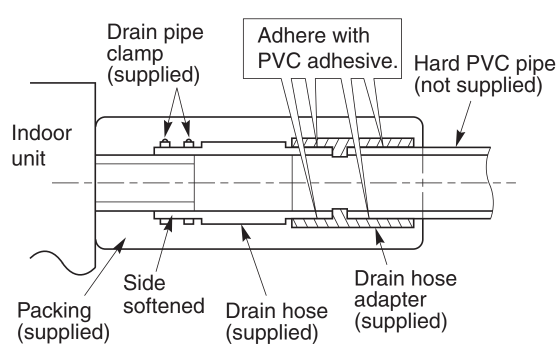


Fig. 1-66

■ Low Silhouette Ducted Type (F1 Type)

6-22. Required Minimum Space for Installation and Service

- This air conditioner is usually installed above the ceiling so that the indoor unit and ducts are not visible. Only the air intake and air outlet ports are visible from below.
- The minimum space for installation and service is shown in Fig. 1-67 and Table 1-7.
- It is recommended that space be provided (17-23/32" × 17-23/32") for checking and servicing the electrical system.
- Fig. 1-68 and Table 1-8 show the detailed dimensions of the indoor unit.

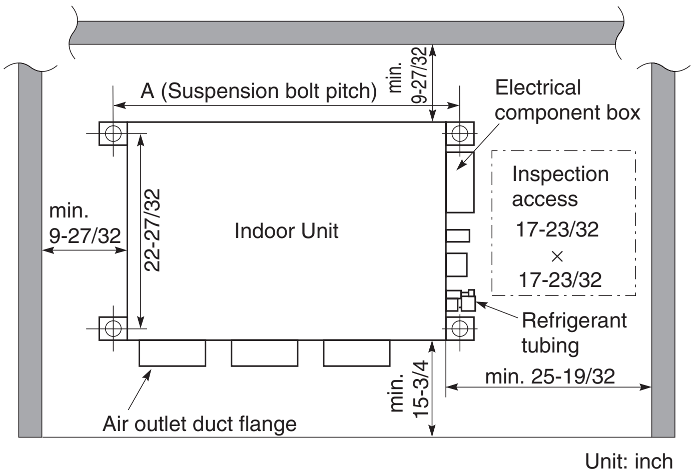


Fig. 1-67

Table 1-7 Unit: inch (mm)

Type	26	36
A (Length)	42-17/32 (1,080)	61-13/32 (1,560)
Number of duct flanges	3	4

Table 1-8 Unit: inch (mm)

Dimension / Type	A	B	C	D	E	F	G	H	I	J	K	No. of holes L	No. of holes M
S-26PF1U6	37-7/8	35-7/16 (7-3/32×5)	39-3/8	42-17/32	11-13/32	2-23/32	38-19/32	39-31/32	5-1/8	9-21/32 (9-21/32×1)	9-27/32	12	16
S-36PF1U6	56-25/32	54-11/32 (9-1/16×6)	58-9/32	61-13/32	13-3/16	12-7/32	57-15/32	58-27/32	5-1/8	19-9/32 (9-21/32×2)	9-7/16	16	18

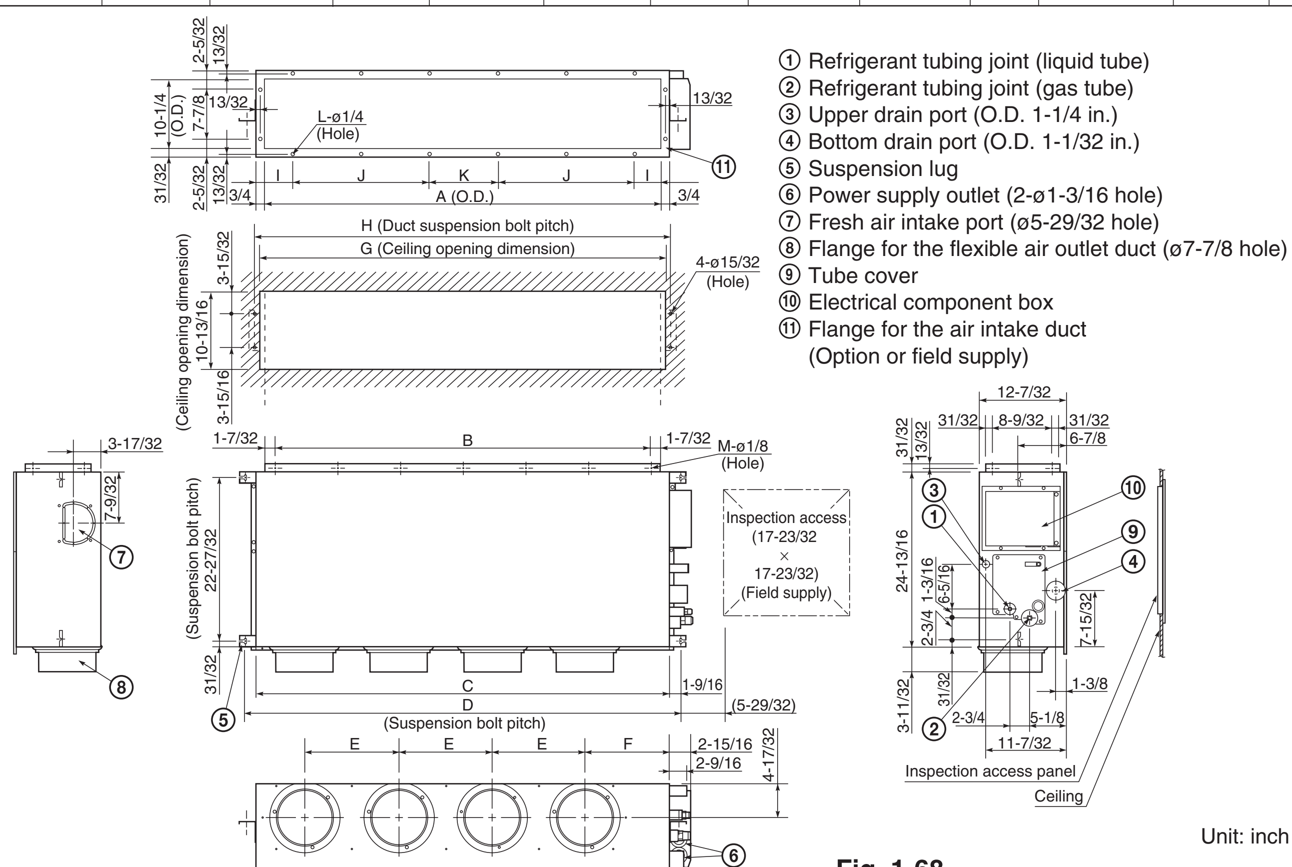


Fig. 1-68

6-23. Suspending the Indoor Unit

Depending on the ceiling type:

- Insert suspension bolts as shown in Fig. 1-69
  or
- Use existing ceiling supports or construct a suitable support as shown in Fig. 1-70.

WARNING **It is important that you use extreme care in supporting the indoor unit inside the ceiling. Ensure that the ceiling is strong enough to support the weight of the unit. Before hanging the unit, test the strength of each attached suspension bolt.**

1

(1) When placing the unit inside the ceiling, determine the pitch of the suspension bolts referring to the dimensional data on the previous page. (Fig. 1-68)
Tubing must be laid and connected inside the ceiling when suspending the unit. If the ceiling is already constructed, lay the tubing into position for connection to the unit before placing the unit inside the ceiling.

(2) Screw in the suspension bolts allowing them to protrude from the ceiling as shown in Fig. 1-69. (Cut the ceiling material, if necessary.)

(3) Thread the 2 hexagonal nuts and washers (field supply) onto the 4 suspension bolts as shown in Figs. 1-71 and 1-72. Use 2 sets of nuts and washers (upper and lower), so that the unit will not fall off the suspension lugs.

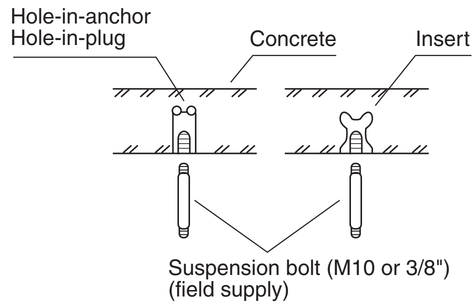


Fig. 1-69

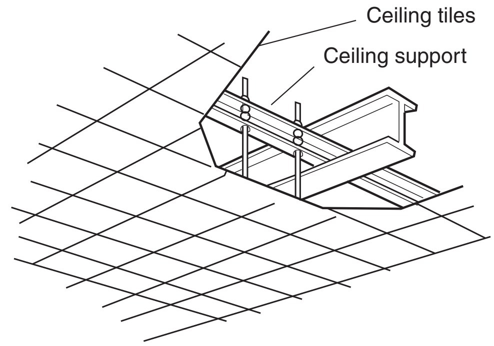


Fig. 1-70

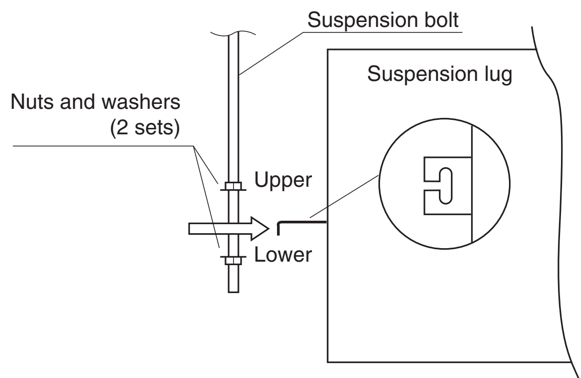


Fig. 1-71

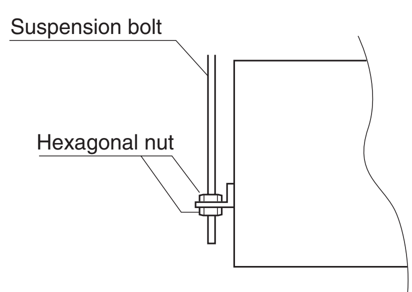


Fig. 1-72

- Fig. 1-73 shows an example of installation.

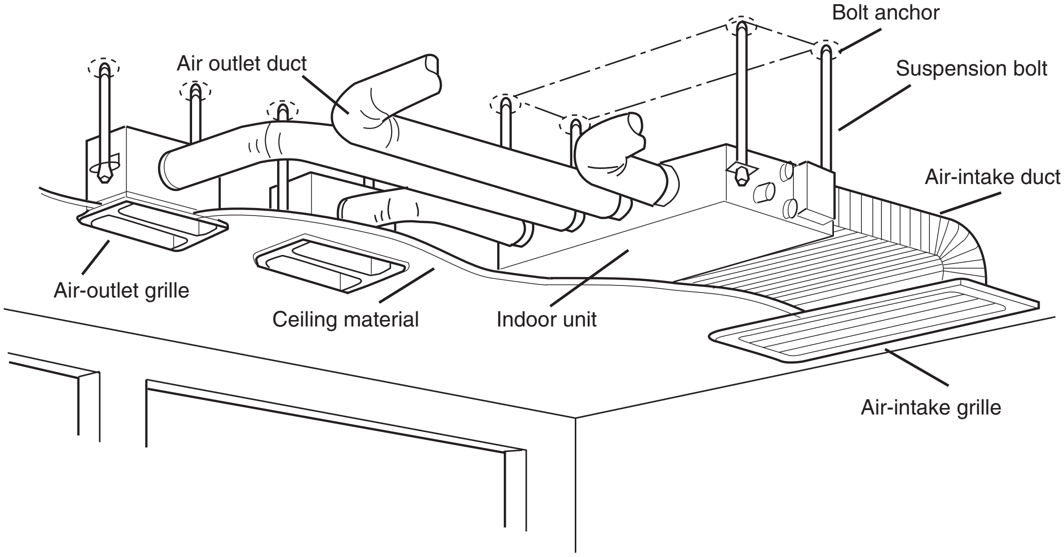


Fig. 1-73

6-24. Installing the Drain Piping

(1) Prepare standard hard PVC pipe for the drain and use the supplied hose band to prevent water leaks. The PVC pipe must be purchased separately. When doing this, leave a gap between the drain socket of the unit and the PVC pipe to allow the drainage to be checked. The transparent drain pipe allows you to check drainage. (Fig. 1-74)

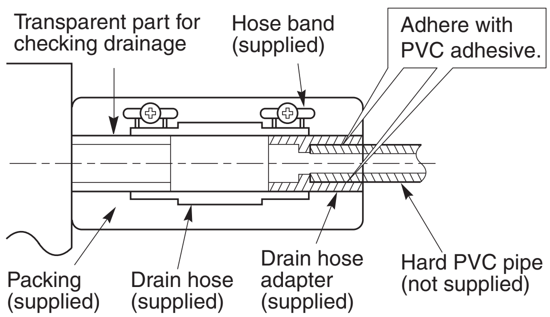


Fig. 1-74

CAUTION **Tighten the hose clamps so their locking nuts face upward. (Fig. 1-74)**

(2) After connecting the drain piping securely, wrap the supplied packing and drain pipe insulator around the pipe, then secure it with the supplied clamps. (Fig. 1-75)

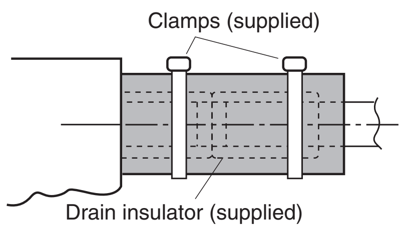


Fig. 1-75

NOTE

Make sure the drain pipe has a downward gradient (1/100 or more) and that there are no water traps.

CAUTION

- **Do not install an air bleeder tube as this may cause water to spray from the drain pipe outlet. (Fig. 1-76)**
- **If it is necessary to increase the height of the drain pipe, the section directly after the connection port can be raised a maximum of 19-11/16".**
  Do not raise it any higher than 19-11/16", as this could result in water leaks. (Fig. 1-77)
- **Do not install the pipe with an upward gradient from the connection port. This will cause the drain water to flow backward and leak when the unit is not operating. (Fig. 1-78)**
- **Do not apply force to the piping on the unit side when connecting the drain pipe. The pipe should not be allowed to hang unsupported from its connection to the unit. Fasten the pipe to a wall, frame, or other support as close to the unit as possible. (Fig. 1-79)**

Refer to “■ SUPPLEMENT ON DRAIN PIPING”.

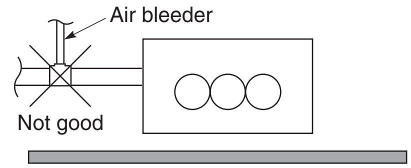


Fig. 1-76

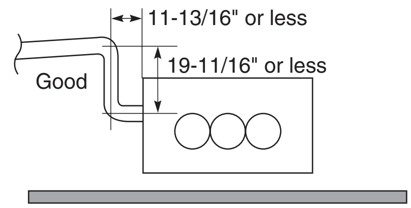


Fig. 1-77

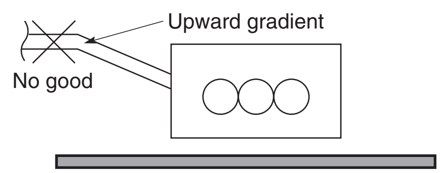


Fig. 1-78

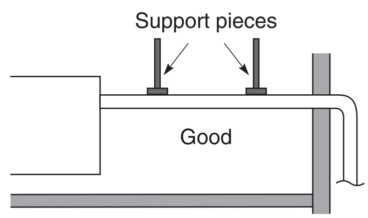


Fig. 1-79

6-25. Checking the Drainage

After wiring and drain piping are completed, use the following procedure to check that the water will drain smoothly. For this, prepare a bucket and wiping cloth to catch and wipe up spilled water.

(1) Connect power to the power terminal board (L1, L2 terminal) inside the electrical component box.

(2) Remove the tube cover and through the opening, slowly pour about 0.3 gal. of water into the drain pan to check drainage.

(3) Short the check pin (CN5 white) on the indoor control board and operate the drain pump. Check the water

CAUTION **Be careful since the fan will start when you short the pin on the indoor control board.**

(4) When the check of drainage is complete, open the check pin (CN5 white) and remount the insulator and drain cap onto the drain inspection port.

CAUTION **To mount the tube cover, use 5/16" (4 × 8 mm) tapping screws. Do not use long screws as they may puncture the drain pan and**

6-26. Increasing the Fan Speed

If external static pressure is too great (due to long extension of ducts, for example), the air flow volume may drop too low at each air outlet. This problem may be solved by increasing the fan speed using the following procedure:

(1) Remove 4 screws on the electrical component box and remove the cover plate.

(2) Disconnect the fan motor sockets in the box.

(3) Take out the booster cable (sockets at both ends) clamped in the box.

(4) Securely connect the booster cable sockets between the disconnected fan motor sockets in step 2 as shown in the Fig. 1-80.

(5) Place the cable neatly in the box and reinstall the cover plate.

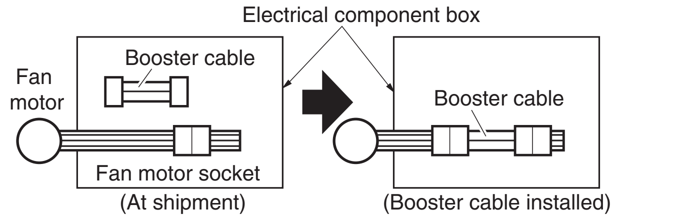


Fig. 1-80

■ How to read the diagram

The vertical axis is the external static pressure (Pa) while the horizontal axis represents the air flow (CFM).
The characteristic curves for “HT”, “H”, “M” and “L” fan speed control are shown.
The nameplate values are shown based on the “H” air flow. For the 26 type, the air flow is 636 CFM, while the external static pressure is 49 Pa at “H” position. If external static pressure is too great (due to long extension of duct, for example), the air flow volume may drop too low at each air outlet.
This problem may be solved by increasing the fan speed as explained above.

Refer to “ ■ SUPPLEMENT ON DRAIN PIPING”.

Indoor Fan Performance

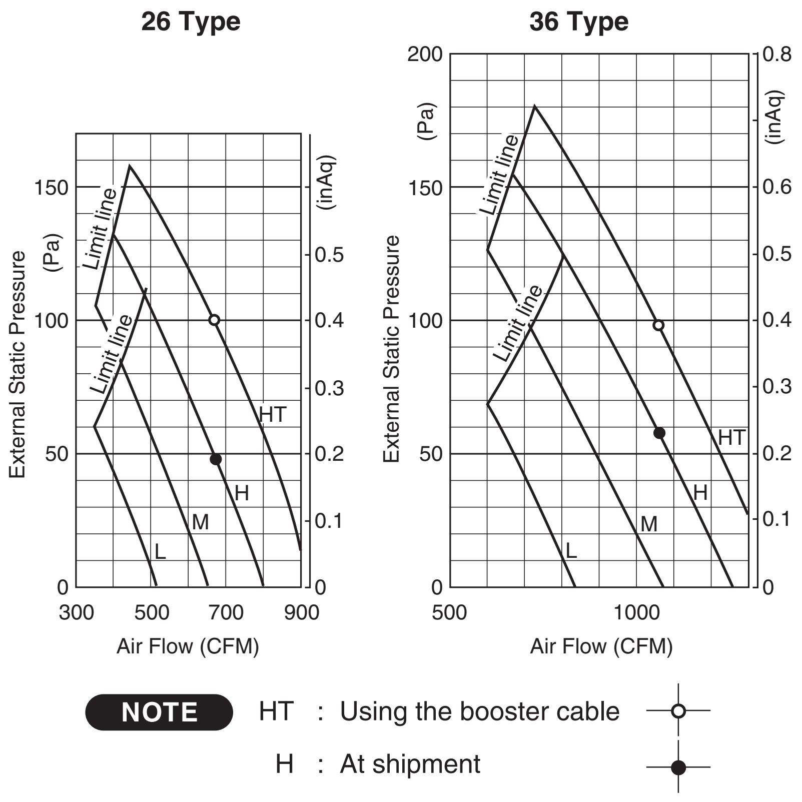


Fig. 1-81

6-27. When Installing the Indoor Unit

Confirm that the indoor unit should be installed in a horizontal position.
Use the level gauge or vinyl tube and check every four corner of the unit is in horizontal.
If the air outlet duct flange is positioned with downward gradient, there is in danger of water splash or drainage.
Also, dust may sometimes be contaminated inside the drain pan caused by the residual drain water.
Install the air outlet duct flange side in horizontal or upward and within the range of 3/8" in the upward direction.
Never install it with a downward gradient against horizontal.

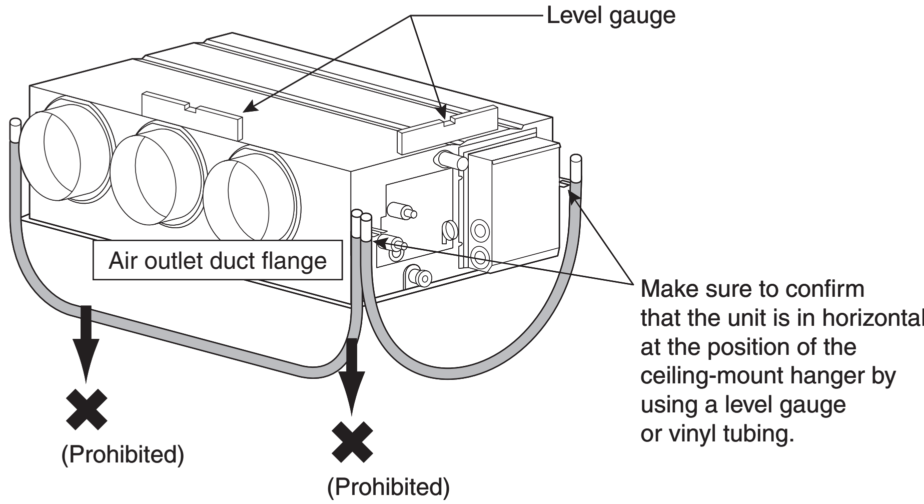


Fig. 1-82

6-28. Required Minimum Space for Installation and Service

If the ceiling tiles cannot be removed, provide the opening holes on the lower side of the indoor unit for removing the unit in order to maintain and clean the drain pan and heat exchanger or provide a minimum of 1.0 ft. or more space.

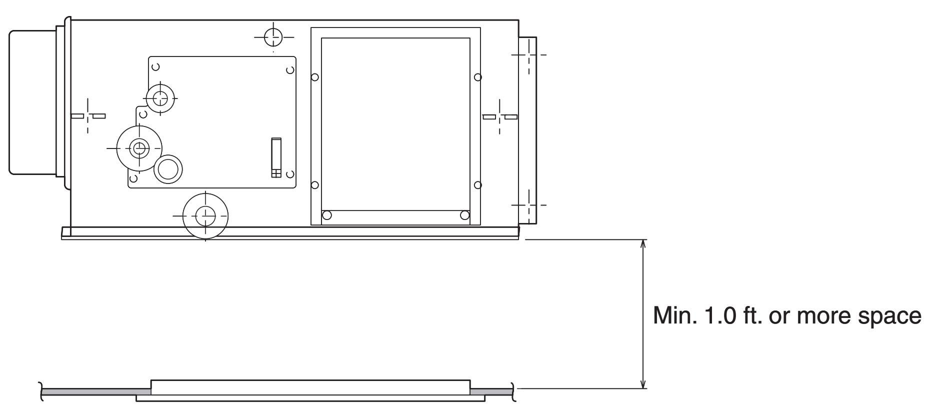


Fig. 1-83

■ SUPPLEMENT ON DRAIN PIPING

Checkpoint after installation

After installation of indoor and outdoor units, panels and electrical wiring, check the following items.

	Checkpoint	Symptom	Check	Remark
1	Make sure whether indoor and outdoor units are correctly installed.	Fall, vibration, noise		
2	Make sure whether gas leakage is tested.	No cooling, no heating		
3	Make sure whether insulation is completed. (Refrigerant piping and drain piping)	Water leakage		
4	Make sure whether drain water is running smoothly.	Water leakage		
5	Make sure whether the power voltage matches the nameplate.	Inoperative, burnout		
6	Make sure whether there is miswiring or incorrect connection.	Inoperative, burnout		
7	Make sure whether the ground construction is completed.	Ground leakage		
8	Make sure whether the wire gauge is followed by the recommended specifications.	Inoperative, burnout		
9	Make sure whether the air intake and air outlet of the indoor and outdoor units are sealed by obstacles.	No cooling, no heating		

7. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER

IMPORTANT

When using this air conditioner with the wireless remote controller it may sometimes be impossible to change the operation modes while other indoor unit is running.

- When this happens, a double beep tone sounds, the ⏻ (operation lamp) lights up, and the ◷ (Timer lamp) and ◉ (Standby lamp) blink alternately.
  Operation is the same even during (AUTO mode) automatic cooling or heating.
- A beep tone sounds 5 times and no changes can be made when any of the ON/OFF, MODE, Temperature setting buttons were pressed while set under central control by the system controller.

7-1. Wireless Remote Controller Installation

The remote controller can be operated from either a non-fixed position or a wall-mounted position.
To ensure that the air conditioner operates correctly, do not install the remote controller in the following places:

- In direct sunlight.
- Behind a curtain or other place where it is covered.
- More than 26 ft. away from the air conditioner.
- In the path of the air conditioner's airstream.
- Where it may become extremely hot or cold.
- Where it may be subject to electrical or magnetic interference.

1

(1) If Wall-mounted Fixed Position

Install the remote controller at a convenient location on a nearby wall. However, before attaching the remote controller mounting cradle, check that the remote controller can operate from the desired wall position. (Fig. 1-84)

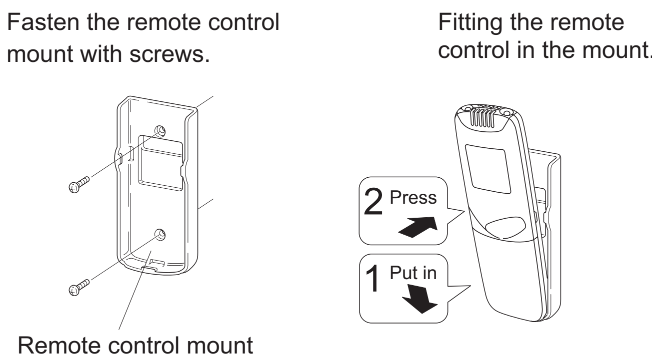


Fig. 1-84

- **How to Install Batteries**

See Fig. 1-85.

(1) Press and slide the lid on the back of the remote controller in the direction of the arrow.

(2) Install two AAA alkaline batteries. Make sure the batteries point in the direction marked in the battery compartment.

(3) Press the reset hole, then replace the lid. If you press it, the current time, ON time, and OFF time are all reset to 0:00.

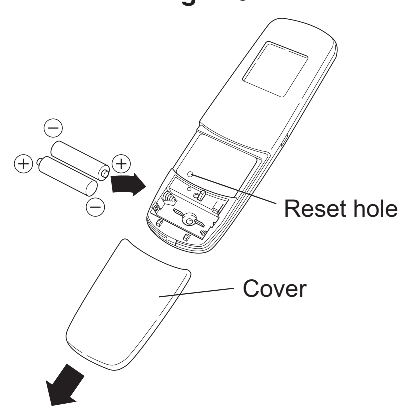


Fig. 1-85

7-2. Room Temperature Sensor Setting

The room temperature sensors are built into the indoor unit and the wireless remote controller. Either of these room temperature sensors can operate.
The system is shipped from the factory set to the indoor unit sensor. To switch to the remote control sensor, press the sensor switching button located inside the remote control cover and check that A/C SENSOR on the LCD display panel goes out.

NOTE

If the sensor switch is set to the remote controller side, but no room temperature data is sent to the main unit for 10 minutes, the sensor is automatically switched to the indoor unit side. As much as possible, install the remote controller facing the unit.

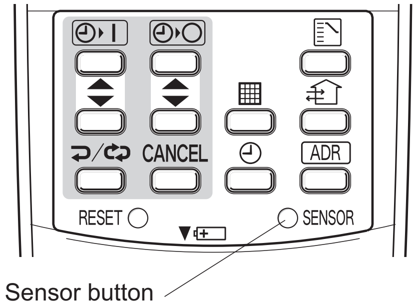


Fig. 1-86

7-3. Address Switches

If you are installing more than 1 indoor unit (up to 6) in the same room, it is necessary for you to assign each unit its own address so they each can be operated by their remote controller.
Up to 6 indoor units can be controlled separately through the address switches. The operating control has the reception address switch and the remote controller has the transmission address switch. This function is utilized by matching the transmission and reception address switches.

Remote control address display	ADR ALL	ADR 1	ADR 2	....	ADR 6
Address switch positions	* Any address switch position available	1 2 3 / 4 5 6	1 2 3 / 4 5 6	....	1 2 3 / 4 5 6

7-4. Setting the Model Code

① Flap display selector switch
Make the slide switch settings in the battery compartment box of the remote controller depending on the type of indoor unit in which the wireless receiving unit is used.

② Operation mode switch
In this Single Split System Air Conditioner set the switch to "A".

* The switch is factory set to "S" / "A".

* Always press the reset button after switching the setting.

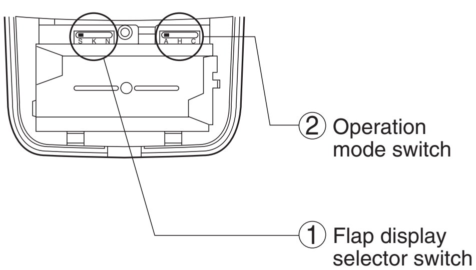


Fig. 1-87

①	S K N U1, T1 types	S K N K1 type	S K N F1 type
②	A H C Heat pump with Auto mode	A H C Heat pump without Auto mode	A H C Cooling only

<CZ-RWSU1U>

■ **4-Way Cassette Type (U1 Type)**

7-5. Indicator Section Installation

● **Remove the ceiling panel and indicator cover and install the indicator section.**

(1) Remove the ceiling panel.
(2) Remove the corner cover behind the mark section. (3 screws)
(3) Remove the mark section inside the ceiling panel. (2 screws)
(4) Install the indicator section in the location where the mark section was attached. (2 screws)
(5) Form the wire to match the panel ribs as shown in Fig. 1-89.
(6) Install the corner cover. (Restrain the wire with the corner cover.)

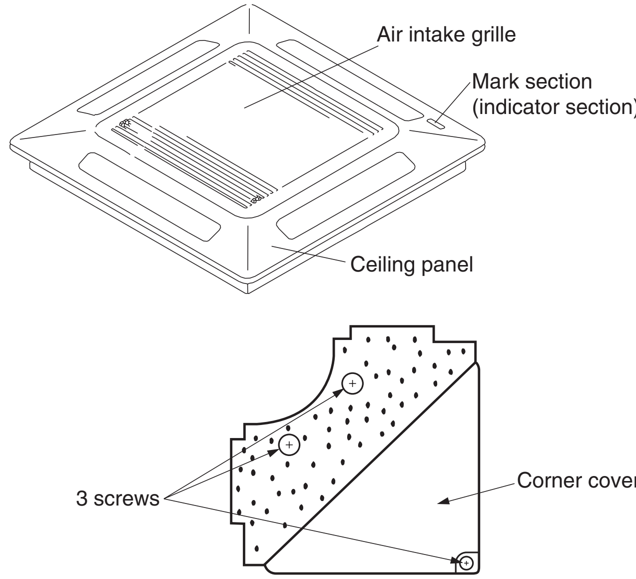


Fig. 1-88

7-6. Operating Controller Installation

CAUTION

● **Do not twist the operating controller wires together with the power supply wires. Doing so can result in malfunction.**

● **If electrical noise is induced in the unit power supply, take appropriate measures, for example installing a noise filter.**

Install the operating controller at the indoor unit intake port section.

(1) Fasten the operating controller to the indoor unit intake port section (electrical component box opposite side) with the 2 accessory screws (4×L13/32").

(2) Connect the operating controller 2 wires (WHT, BLK) to the remote control wire (WHT) in the electrical component box. (For details on wiring, see the section "7-9. Electrical wiring" .)

(3) Install the ceiling panel.

(4) Connect the indicator section and the operating controller with the 6P connector (white).

(5) Form the wires with vinyl clamps and fasten.

(6) Connect the ceiling panel wiring connector (2P, 3P) to the body connector in the electrical component box.

(7) For details on test operation, see "Test Run."

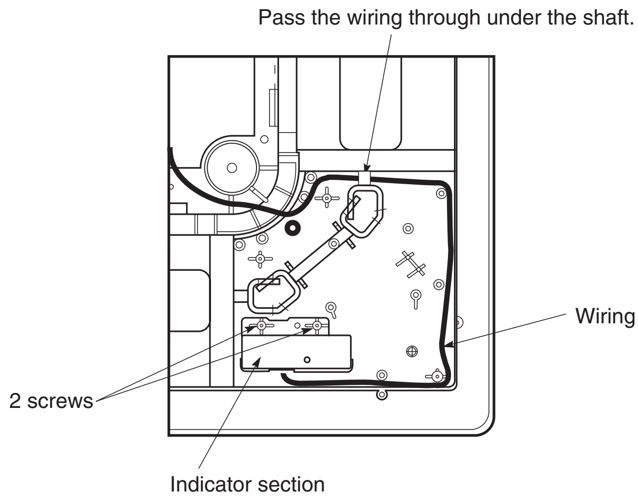


Fig. 1-89

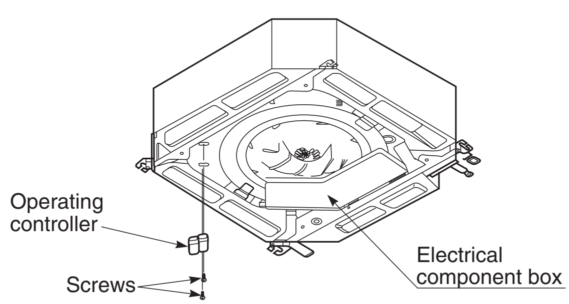


Fig. 1-90

■ **Ceiling Type (T1 Type)**

7-7. Indicator Section Installation

Remove the side panel to install the indicator section. (Fig. 1-91)

(1) Remove the side panel.
Open the air intake grille, remove the screw at one place and then remove the side panel by sliding it toward the front (arrow direction).
(2) Remove cover A and cover B.
Insert a flathead screwdriver into the grooves of cover A to remove cover A and cover B. (When removing the cover, take care not to scratch the panel.)
(3) Remove cover B from cover A.
(4) Install the indicator section at cover A.
(5) After passing through the lead wires, install cover A and the indicator section at the panel hole. (The protrusion part of cover A is fixed with the panel hole.)
(6) Bundle the lead wires along with the wiring of the louver motor.
(7) Install the side panel.

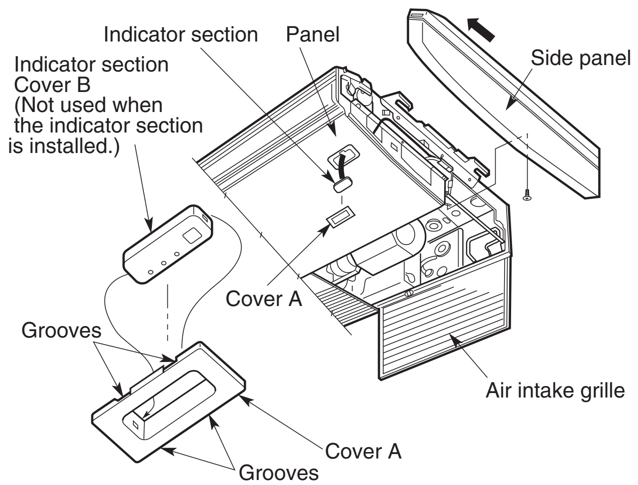


Fig. 1-91

1

7-8. Operating Controller Installation

CAUTION

- **Do not twist the operating controller wires together with the power supply wires. Doing so can result in malfunction.**
- **If electrical noise is induced in the unit power supply, take appropriate measures, for example installing a noise filter.**

Install the operating controller on the top face of the air intake section (space between the fan motor and the electrical component box). (Fig. 1-92)

(1) Fasten the operating controller to the ceiling panel of the air intake section with the 2 supplied screws (4×L13/32").

(2) Draw the lead wires into the electrical component box and connect the operating controller 2 wires (WHT, BLK) to the remote control wires in the electrical component box.

(3) Connect the indicator section and the operating controller using the 6P connector in the electrical component box.

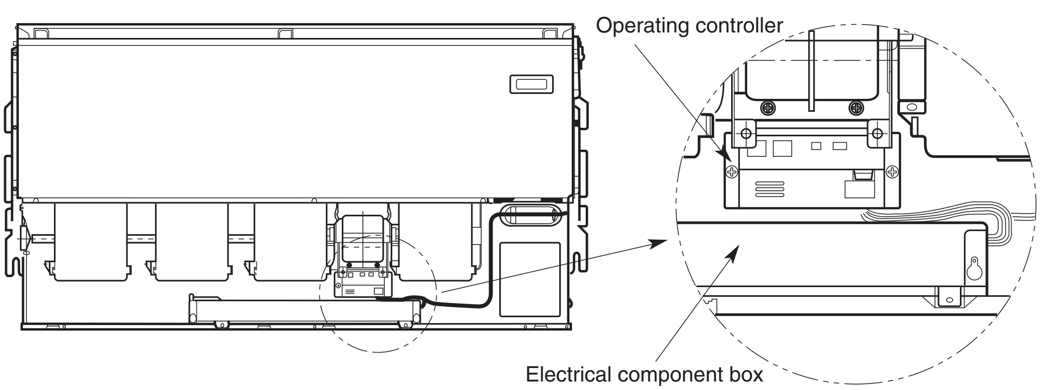


Fig. 1-92

7-9. Electrical Wiring

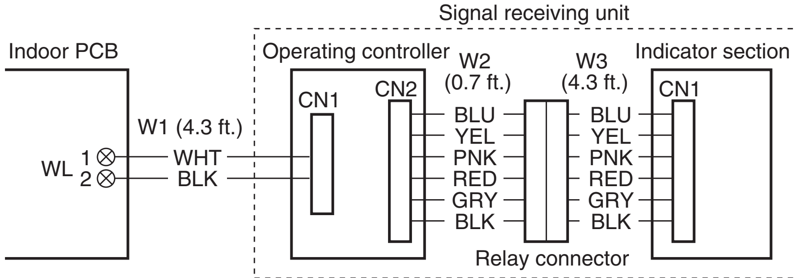


Fig. 1-93

Connection method

(1) Connect W1 to the indoor PCB WL connector.

(2) Connect W3 from the indicator section with W2 from the operating controller using the relay connector.

7-10. Test Run Switch

The test run switch is located in the operating control unit.
See the Installation Instractions attached to the outdoor unit.

1

7-10-1. How to use the test run setting (U1, T1 Types)

(1) Set DIP switch [DS] No. 1 on the wireless receiver unit PCB from OFF to the ON position.

(2) Press the ON/OFF operation button on the wireless remote controller.

(3) Make a test run using the air conditioner in COOL or HEAT mode.

(4) During the test run, each of the 3 indicator lamps on the indoor unit flash.

(5) During the test run, the air conditioner runs continuously and the thermostat does not control the system.

(6) After the test run, be sure to reset DIP switch No. 1 back to the OFF position and check that no indicator lamps are blinking.
(This receiver includes a 60-minute automatic OFF timer function in order to prevent continuous test run.)

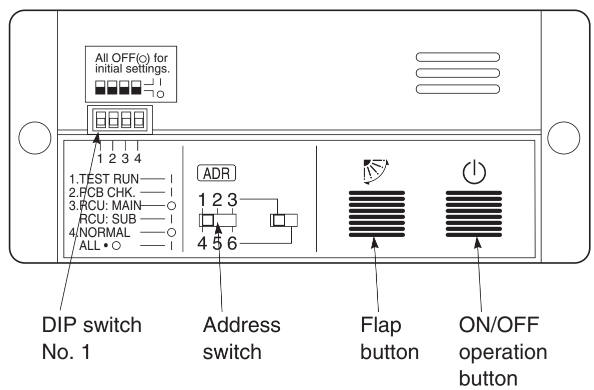


Fig. 1-94

NOTE

- In case of 4-way Cassette type, test run operation is not possible without the ceiling panel installation.
- To protect the air conditioner from overloading, the outdoor unit will not start running for 3 minutes after power is applied or the air conditioner is turned off and then back on.
- When the air conditioner fails to start the test run, 1 or more of the 3 alarm indicator lamps on the indoor unit will flash (See next section).
- When the DIP switch is set to “TEST – ON,” temperature control from the wireless remote controller is disabled. Do not use this setting at any time other than for the test run. Doing so will place an excessive load on the system.
- To avoid placing an excessive load on the equipment, use this function only when conducting the test run.

7-11. Misoperation Alarm Indicators

Alarm indicator lamps on the indoor unit indicate the error cause if the air conditioner fails to operate upon being switched on. The possible alarm indications are given in Table 1-9. Fig. 1-95 shows the location of the alarm lamps on the indoor unit.
(See Table 1-9 and Fig. 1-95.)

Table 1-9

Alarm			Cause of Trouble
(OPERATION lamp)	(TIMER lamp)	(STANDBY lamp)	
☼	●	●	S.C. errors* between the indoor unit's controller (PCB) and the remote controller.
●	☼	●	Compressor protector is working.
●	●	☼	S.C. errors between indoor and outdoor units.
☼	☼	●	Indoor or outdoor thermistor is malfunctioning.
☼	●	☼	Outdoor unit protector is working.
●	☼	☼	Indoor unit protector is working.
☼	☼	☼	TEST RUN switch on the operation controller is in ON state.

* S.C.: Serial communications

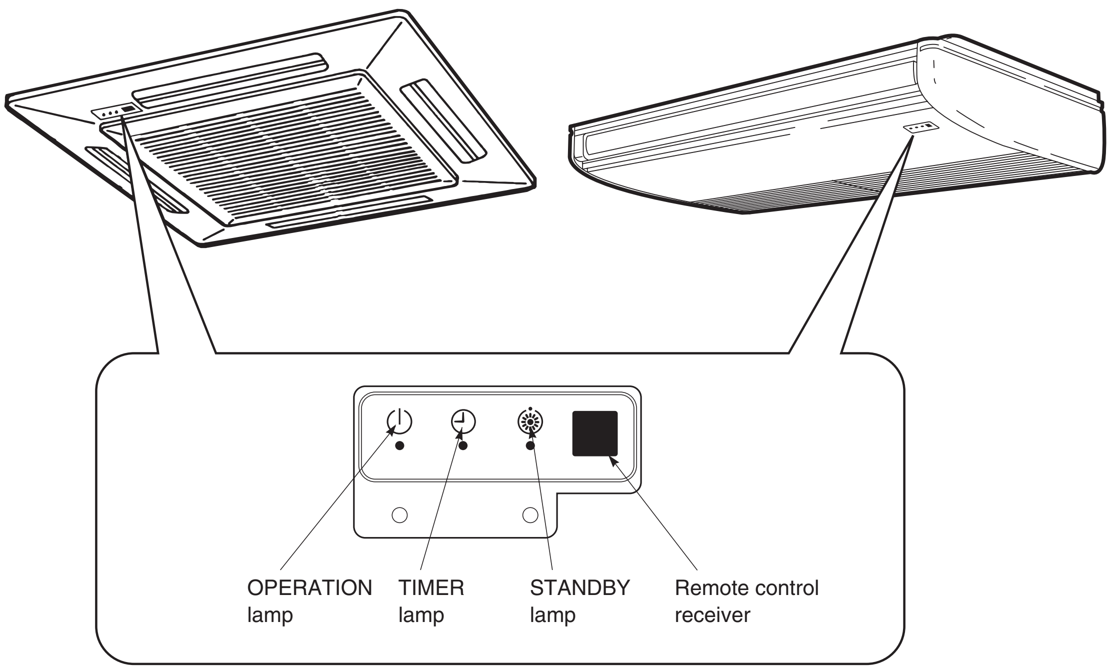


Fig. 1-95

NOTE

Stick the alarm message label accompanying the wireless remote controller on the electrical component box to indicate the cause of trouble for future reference.

<CZ-RWSC1U>

CAUTION

- **If the signal receiving unit is installed near a rapid-start or inverter type fluorescent lamp (neither one uses glow lamps), it may be impossible to receive signals from the wireless remote controller. To avoid signal interference from fluorescent lamps, install the receiving unit at least 6.6 ft. away from the lamps and install at a location where wireless remote controller signals can be received when the fluorescent lamps are on.**

7-12. Separate Type Signal Receiving Unit Installation

CAUTION

- **Do not twist the operating controller wires together with the power supply wires. Doing so can result in malfunction.**
- **If electrical noise is induced in the unit power supply, take appropriate measures, for example installing a noise filter.**

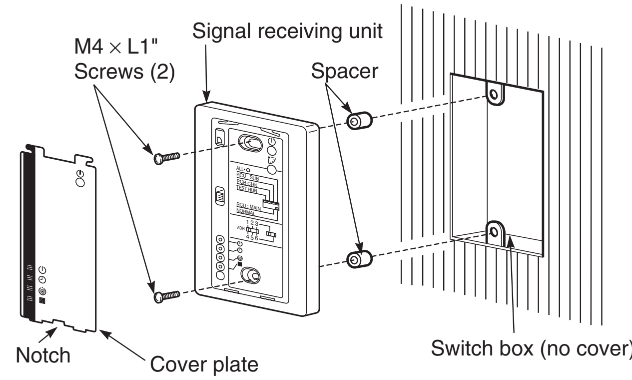


Fig. 1-96

1

- If local electrical codes allow, this signal receving unit can be mounted using a conventional wall box for flush mounting.

(1) If Wall mounted Fixed Position

Install the remote controller at a convenient location on a nearby wall. However, before attaching the remote controller mounting cradle, check that the remote controller can operate from the desired wall position. (Fig. 1-97)

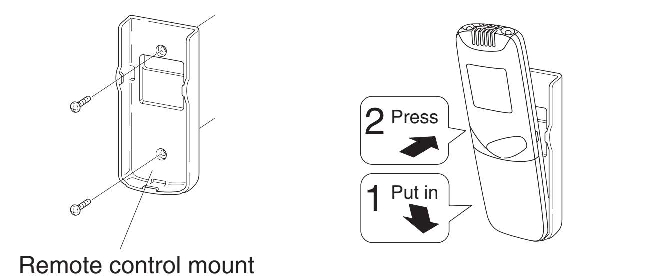


Fig. 1-97

- **How to Install Batteries**

See Fig. 1-98.

(1) Press and slide the lid on the back of the remote controller in the direction of the arrow.
(2) Install two AAA alkaline batteries. Make sure the batteries point in the direction marked in the battery compartment.
(3) Press the reset hole, then replace the lid. If you press it, the current time, ON time, and OFF time are all reset to 0:00.

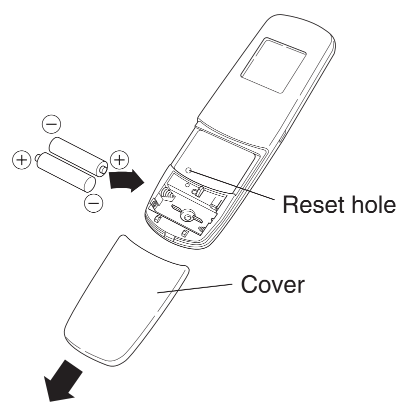


Fig. 1-98

- <u>When using the signal receiving unit on a wall with the front exposed, choose a wall surface that the signal receiving unit can be mounted on.</u>

(1) Insert a flathead screwdriver into the slot on the lower side of the signal receiving unit and pry off the back case.

(2) The wire routing at the signal receiving unit comes out of the upper case (thin portion at upper center) so use nippers or a similar tool to cut out a notch beforehand large enough for the remote control cable (option) to pass through as shown in Fig. 1-99.

(3) Remove the wire, which is connected prior to shipping, from the connector.

(4) Connect the remote control cable (option) to the signal receiving unit connector as shown in Fig. 1-100 after the clamp (supplied) with the unit is installed.

(5) After arranging the wiring on the printed circuit board as shown in Fig. 1-101 so that it is contained within the signal receiving unit, attach the back case. At this time, arrange so that the head of the clamp faces the side.

(6) Remove the cover plate and install the signal receiving unit using the 2 wood screws.

(7) Fasten to the wall using the cord clip (supplied).

(8) Reinstall the cover plate.

- <u>To use the signal receiving unit while mounted on the ceiling, install by using the carrier for ceiling installation supplied with the unit.</u>

(1) Remove the cover plate by inserting a flathead screwdriver into the notch in the lower section and prying it off.

(2) Cut out a section (3-3/4"×2-1/32") on the ceiling using the paper pattern (supplied) as a guide.

(3) Run the wire through the mounting carrier and insert into the installation hole as shown in Fig. 1-103.

(4) Fit securely into the ceiling material at sections (A) and (B) as shown in Fig. 1-104.

(5) Connect the wire (2-wire core) from the signal receiving unit with the wire from the indoor unit. (See section on how to wire the receiving unit.) as shown in Fig. 1-104.

(6) Use the supplied spacers to adjust for a thickness several inches more than the ceiling material and lightly fasten the receiving unit in place with the small screws (M4×1-9/16", 2 pcs.) supplied with the unit.

(7) Tighten the machine screws after fitting sections (A) and (B) into the openings, in the gap between the signal receiving unit and ceiling surface as in Fig. 1-105. Do not apply strong force when tightening the screws. Excessive force might warp or damage the cover. When finished, the signal receiving unit should still be able to move slightly when pressed as shown in Fig. 1-105.

(8) Reinstall the cover plate.

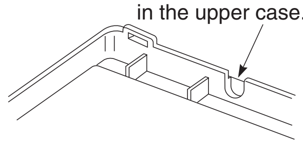


Fig. 1-99

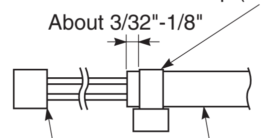


Fig. 1-100

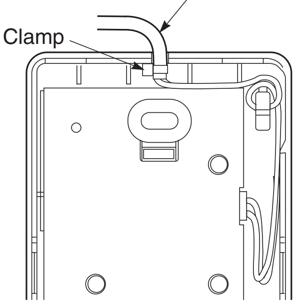


Fig. 1-101

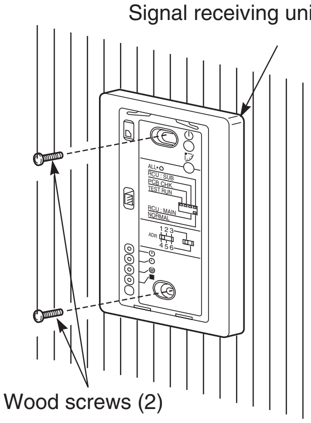


Fig. 1-102

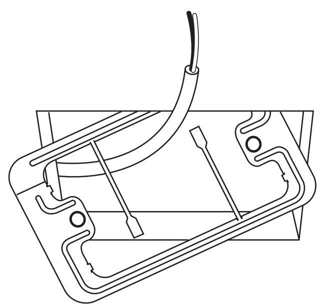


Fig. 1-103

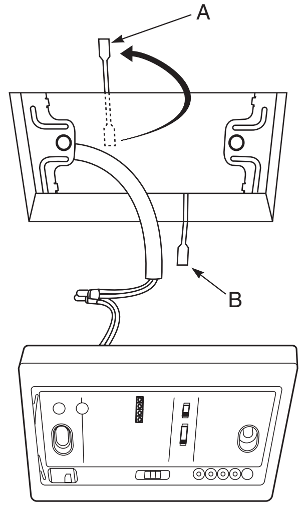


Fig. 1-104

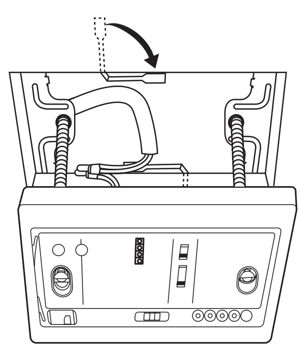


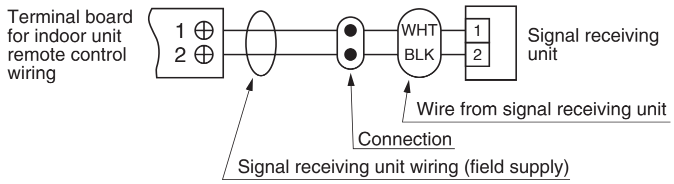
Fig. 1-105

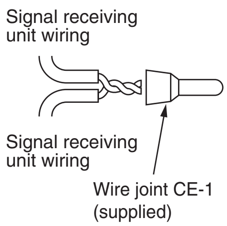
1

7-13. Electrical Wiring

CAUTION **Be sure to do the wiring correctly (incorrect wiring will damage the equipment).**

- Recommended wire diameter and allowable length for signal receiving unit wiring and its branch wiring: AWG #18, MAX 1,300 ft.



Wire joint (2 pcs. white, supplied)		(1) Strip the insulation to approximately 9/16" from the ends of the wires that will be connected. (2) Twist together the 2 wires and create a crimp connection at the wire joint. (3) If a special crimping tool is not used, or if the connection is soldered, insulate the wires using insulation tape.

7-14. Test Run Switch

(1) Remove the cover plate of the signal receiving unit. Set the “TEST RUN” switch of the dip switches to the ON position.
(2) Press the ON/OFF operation button on the wireless remote controller.

CAUTION **To avoid placing an excessive load on the equipment, use this function only when conducting the test run.**

(3) Make a test run using the air conditioner in COOL or HEAT mode.
(4) During the test run, the “OPER.,” “TIMER,” and “STDBY” LED all blink.

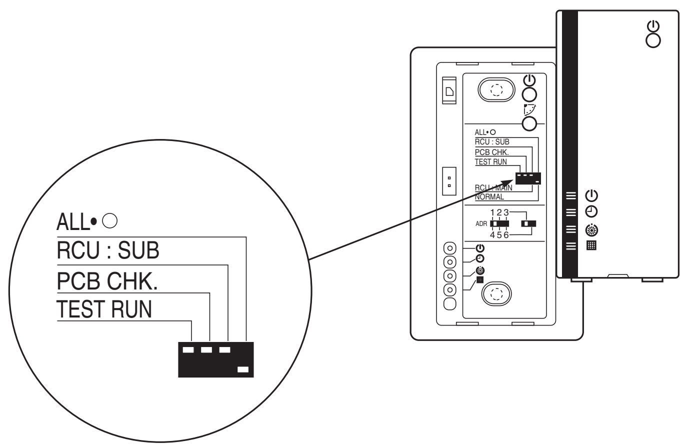


Fig. 1-106

- To protect the air conditioner from overloading, the outdoor unit will not start running for approximately 3 minutes after power is applied or the air conditioner is turned off and then back on.
- When the DIP switch is set to “TEST – ON,” temperature control from the wireless remote controller is disabled. Do not use this setting at any time other than for the test run. Doing so will place an excessive load on the system.

(5) After the test run, press the ON/OFF operation button on the wireless remote controller. Then, set the TEST RUN switch back to the OFF position to cancel the test run mode.
(This receiver includes a 60-minute automatic OFF timer function in order to prevent continuous test run.)

7-15. Misoperation Alarm Indicators

A blinking lamp for other than the signal receiving unit filter shows that a problem has occurred in the unit, so make an inspection. (Refer to servicing information in the service manual, etc.) Also, if wired remote controller and dedicated service check lines (CV6380230938: service use) are available, then detailed error information can be obtained by connecting to the service connector as shown in the drawing. For information on how to connect to the signal receiving unit, refer to the instruction manual that came with the dedicated service check lines.

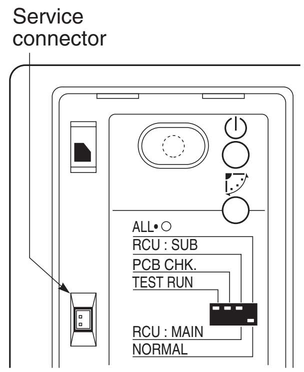


Fig. 1-107

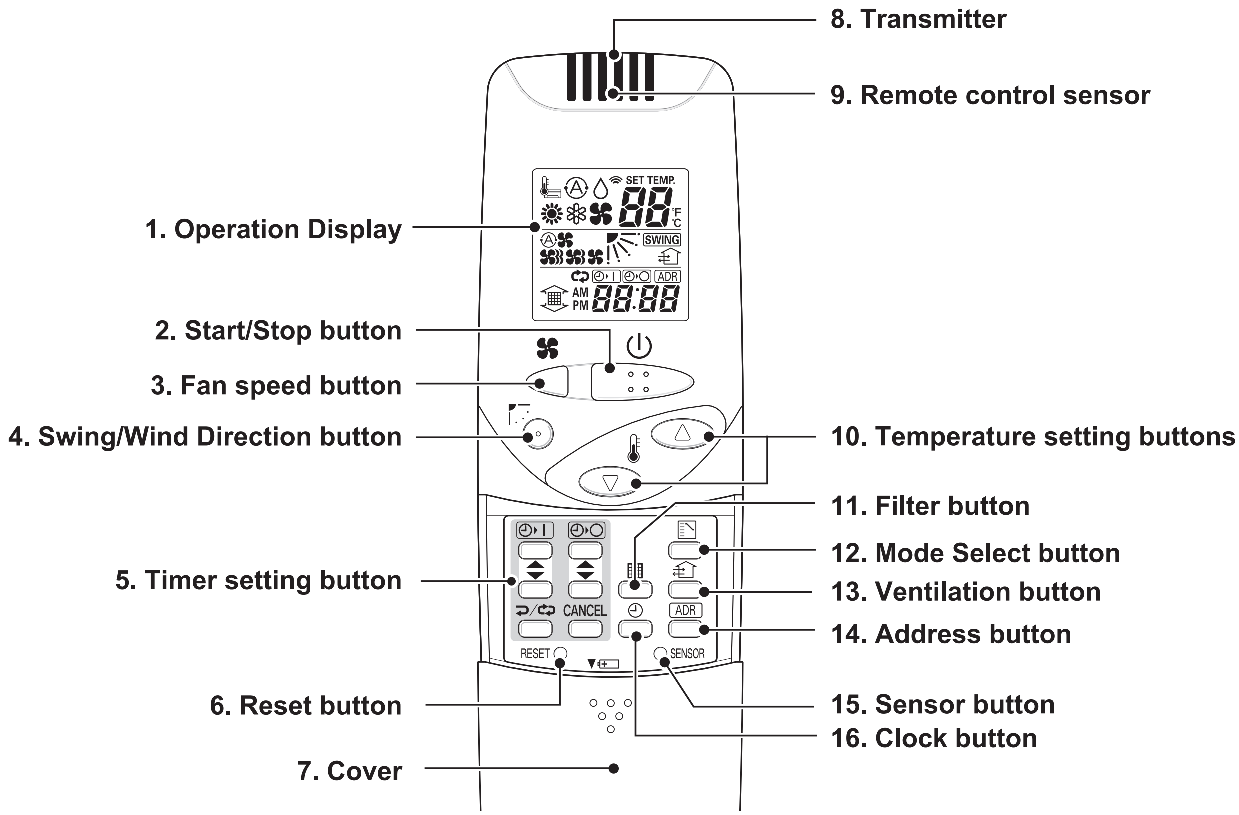


Fig. 1-108

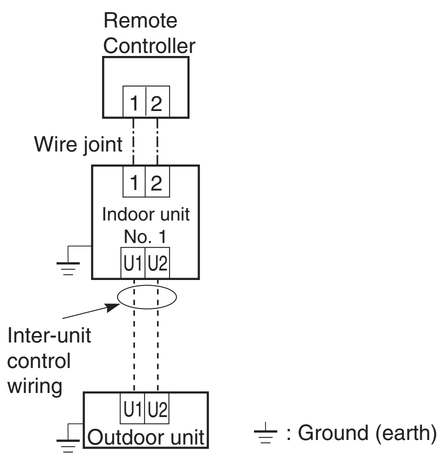
Table 1-10

Lamp			Bright	Cause of Trouble
OPERATION lamp	**TIMER lamp**	**STANDBY lamp**		
●	●	●		No power supply or mis-wiring of signal receiving unit.
☼	●	●		S.C.* errors between the indoor unit's controller (PCB) and signal receiving unit.
●	●	☼		S.C. errors between indoor and outdoor units.
●	☼	☼	Alternately	Indoor unit protector is activated.
☼	●	☼	Alternately	Outdoor unit protector is activated.
●	☼	●		Compressor protector is activated.
☼	●	☼	Concurrent	Mis-setting of indoor unit.
☼	☼	☼	Concurrent	Mis-setting of outdoor unit.

* S.C.: Serial communications

7-16. Basic Wiring Diagram

CAUTION **Be sure to do the wiring correctly (incorrect wiring will damage the equipment).**



- **Wiring procedure**

  Carry out the wiring according to the above wiring diagram.

  - Address setting is automatically executed after turning on the system. An indoor unit address is assigned to each indoor unit.
  - Operation takes place successively at intervals of 1 second, by using combinations of the address setting of each unit.

- In case of using shielded wires for inter-unit control wiring, ground the shield on one side. (Fig. 1-109) Otherwise misoperation because of electrical noise may occur.

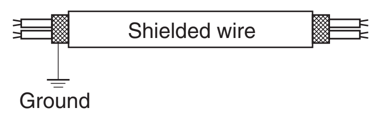
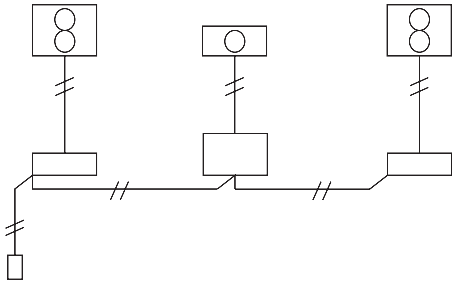


Fig. 1-109

7-17. Wiring System Diagram for Group Control

This diagram shows when several units (maximum of 8) are controlled by a signal receiving unit (main unit). In this case, a signal receiving unit can be connected at any indoor unit.



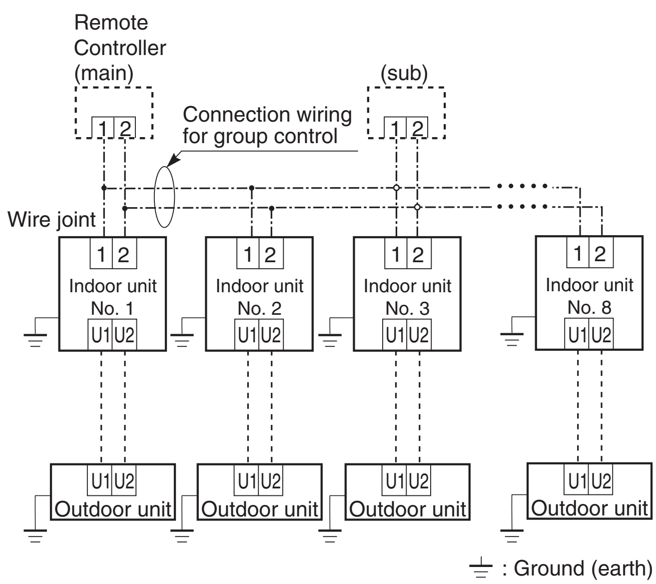
Wiring procedure

Wire according to the diagram at left:

- Address setting is executed automatically when the outdoor unit is turned on.
- Each successive unit will respond at one-second intervals following the order of the group address when the remote controller is operated.

● Group control using 2 signal receiving units

It does not matter which of the 2 signal receiving units you set as the main controller.



When using multiple signal receiving units (up to 2 can be used), one is the main signal receiving unit and the other is the sub-signal receiving unit.

- To set up a sub-signal receiving unit, change its remote control address connector (RCU. ADR) located on its PCB from main to sub position (main: when shipped from factory).

7-18. Wiring System Diagram for Multiple Remote Controllers

● **When installing multiple remote controllers**

This multiple system is used for operating the unit(s) at different positions. (A maximum of 2 signal receiving units can be installed.)

● **Setting method**

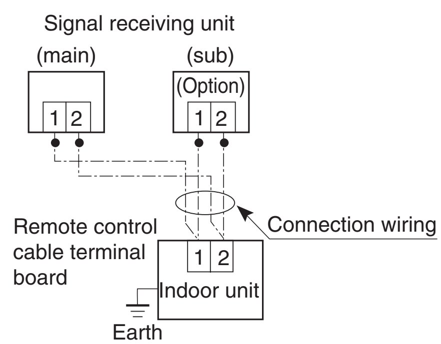
To execute this control, make the setting according to the following procedure.

(1) Of the two installed signal receiving units, make one the main signal receiving unit (factory-shipped state).
(2) On the other signal receiving unit, change the address connector on the PCB from main to sub position.
In this state, it functions as a sub-signal receiving unit.

1

● **Basic wiring diagram**

CAUTION **Carry out the wiring correctly (incorrect wiring will damage the equipment).**

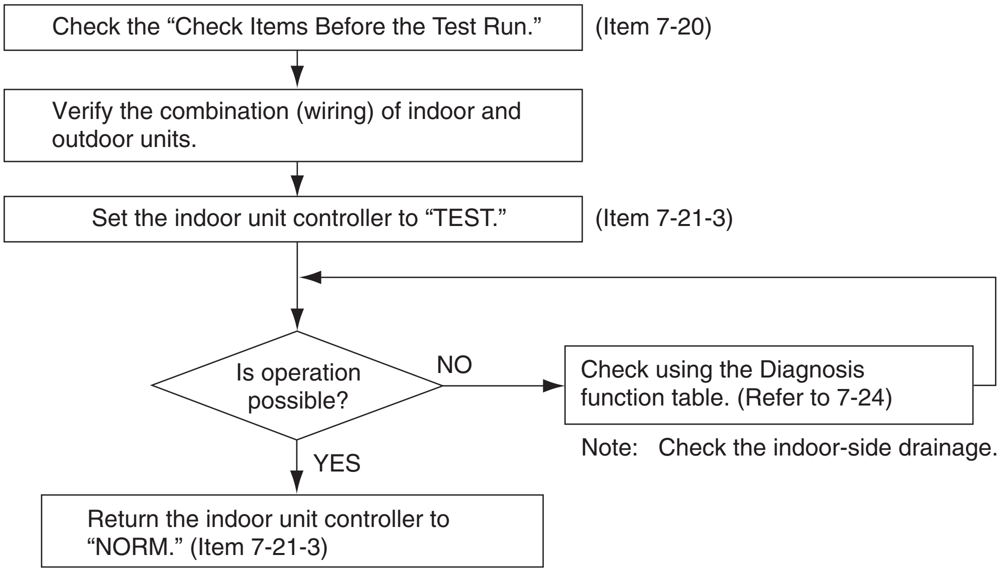


● To operate 1 indoor unit with 2 signal receiving units set at different locations.

<CZ-RWSK1U>

7-19. Test Run Procedure

- **Wall mounted Type (K1 Type)**



7-20. Check Items Before the Test Run

(1) Turn ON the remote power switch at least 12 hours before the test run in order to charge the crankcase heater.

(2) Fully open the service valves on the gas-tube and liquid-tube sides.

(3) Set the sliding switches on the inside of the wireless remote controller cover to the correct settings for that model. After changing the settings, press the RESET hole.

Verify that sliding switch 1 is in the "S" position.

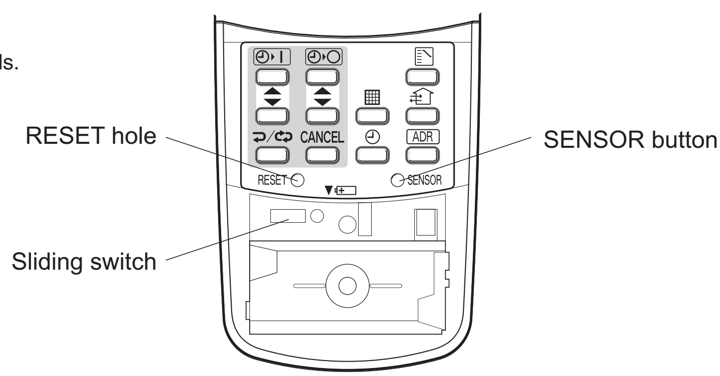
S K N

- Set sliding switch 2 to the correct setting for these models.

A H C ⟷ A H C

A: Heat pump model
(H: Heat pump, no auto heating/cooling)
C: Cooling-only model

Wireless remote controller transmitter



7-21. Preparing for the Test Run

7-21-1. Changing the room temperature sensor

- Room temperature sensors are installed inside the indoor unit and the wireless remote controller. Either room temperature sensor can be used.
- When “Unit Sensor” is indicated on the wireless remote controller’s LCD, the indoor unit sensor is operating as the room temperature sensor.
  To change to the remote control sensor, open the remote control cover and press the SENSOR button once. The “Unit Sensor” display disappears, and the remote control sensor becomes the room temperature sensor.

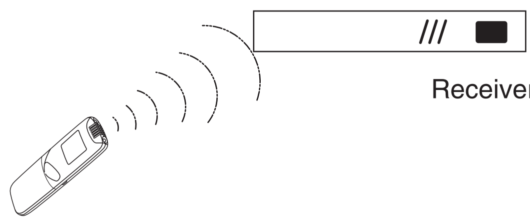


CAUTION

If the temperature data from the remote controller is not communicated to the indoor unit for a period of 10 minutes when the remote control sensor is selected, the unit automatically switches back to the indoor unit sensor.
Install the remote controller in a location where the signal can reliably be received by the indoor unit.

7-21-2. Using the remote controller

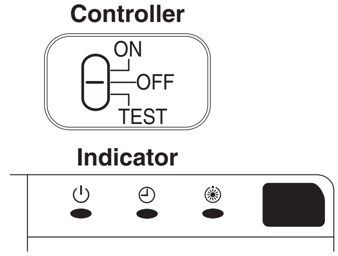
- Face the remote controller toward the receiver (indoor unit).
- The maximum distance where the remote controller signal can be received is approximately 26 ft., however this distance is only a guide. The actual distance may vary somewhat depending on battery capacity and other conditions.
- Make sure there are no obstructions which can block the signal between the remote controller and the receiver.
- When the remote controller signal is received correctly, the indoor unit beeps.
  (It beeps twice only when operation is started.)



- Do not drop, throw, or wash the remote controller.
- Do not place the remote controller in a location exposed to direct sunlight, or near a stove or similar appliance.

7-21-3. Test run

For S-26PK1U6



- **Using the controller**

(1) Slide the main unit controller switch from “ON” to “TEST”.
(The outdoor unit will not operate for approximately 3 minutes after the power is turned ON, or after operation is stopped.)
(2) All indicator lamps on the display blink while test run is in progress.
(3) Temperature control is not possible during the test run.
(4) If normal operation is not possible, the lamps on the display will indicate the problem. Refer to “7-24. Diagnosis Table”.
(5) After the test run is completed, move the controller switch from “TEST” to “ON” and verify that the indicator lamps stop blinking.
(A 60-minute automatic OFF timer function is included in order to prevent continuous test run.)



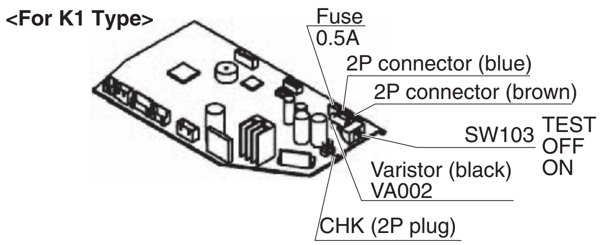
CAUTION

- **Do not use this setting at any time other than for the test run. Doing so will place an excessive load on the system.**
- **Test run is not possible if the power was turned ON when the controller switch was in the “TEST” position. Leave the power ON and move the switch to “OFF,” then move the switch back to “TEST.”**

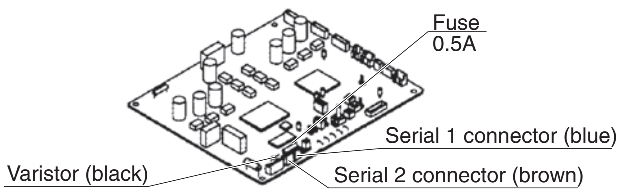
7-22. Precautions

- Request that the customer be present at the time the test run is performed. Explain the Operating Instructions to the customer, and then have the customer actually operate the system.
- Be sure to pass the manual and warranty certificate to the customer.
- Verify that the AC 208 / 230 V wiring is not connected to the terminal plate which is used to connect the inter-unit control wiring.
  * If AC 208 / 230 V is accidentally applied to this terminal plate, the fuse (0.5A for both indoor and outdoor units) on the inter-unit control PCB will be tripped in order to protect the PCB. Correct the wiring connections, then disconnect the 2P connectors (indoor unit: blue, OC, CN40; outdoor unit: blue, OC) which are connected to the PCB and connect the other 2P connectors (indoor unit: brown, EMG, CN44; outdoor unit: brown, EMG). (See the figure below.)
  If operation is still not possible with the brown connectors connected, cut the varistor (black) (for both the indoor and outdoor units).
  (Be sure to turn OFF the power before performing this work.)

Indoor unit control PCB



Outdoor unit control PCB

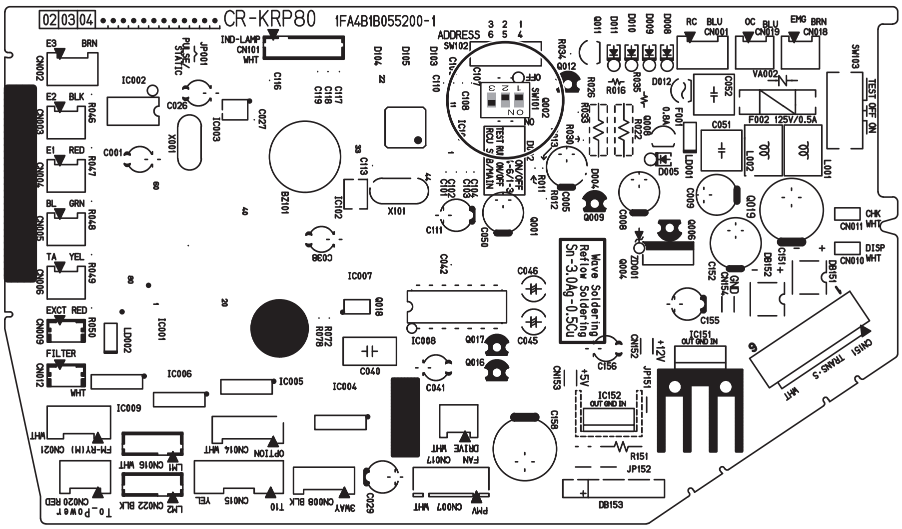


7-23. When Setting Indoor Unit Control PCB Switch for Wall Mounted Indoor Unit

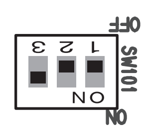
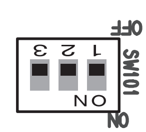
When using both the wired and wireless remote controller, refer to the procedure below.

- If this setting is not made correctly an alarm will occur. (The operation lamp on the display blinks.)
- This setting is not necessary for the case of using wireless remote controller only.
- The slide switch setting at the time of factory shipment for model K1 type is "B."

● S-26PK1U6



- When using wired remote controller as "sub", to set its data to "sub" in remote controller setting mode.
- When using wireless remote controller as "sub", set the switch on the indoor unit control PCS to A.

A	When using wireless remote controller as "sub"	 **Nos. 1, 2 OFF, No. 3 ON.**
B	When using wireless remote controller as "main"	 **Nos. 1, 2, 3 all OFF**

7-24. Diagnosis Table

Wired remote spcontroller dilay	Indoor unit receiver lamp	Cause: 1:1 connection (single type)	Cause: Group connection	Cause: Simultaneous-operation multi system (flexible combination)	Cause: Control by main-sub remote controllers
Nothing is displayed	Nothing is displayed	● Remote controller is not connected correctly. ● Indoor unit power is not ON.	● Remote controller is not connected with indoor unit correctly ● Indoor unit power is not ON.	● Same as at left	● Same as at left
E 0 1 displayed	Operating lamp is blinking.	● Automatic address setting has not been completed. ● Inter-unit control wiring is cut or is not connected correctly. ● Remote controller is not connected correctly (remote controller receiving failure).	● Automatic address setting has not been completed. ● Inter-unit control wiring is cut or is not connected correctly. ● Remote controller is not connected with indoor unit correctly	● Same as at left	● Same as at left
E 0 2 displayed		● Remote controller is not connected correctly (failure in transmission from remote controller to indoor unit).	● Remote controller is not connected with indoor unit correctly	● Same as at left	● Same as at left
E 0 9 displayed		———	———	———	● 2 remote controllers are set as the main remote controller.
E 1 4 displayed		———	———	● Control wiring for group control is cut or is not connected correctly.	● Same as at left
E 0 4 displayed	Standby lamp is blinking.	● Indoor-outdoor inter-unit wiring is not connected correctly.	● Same as at left	● Same as at left	● Same as at left
E 0 6 displayed			● Indoor-outdoor inter-unit wiring is cut or is not connected correctly.	● Same as at left	● Same as at left
E 1 5 displayed		● Indoor unit capacity is too low.	● Same as at left	● Same as at left	● Same as at left
E 1 6 displayed		● Indoor unit capacity is too high.			
E 2 0 displayed		● No serial signal is being received at all from the indoor units.			
P 0 5 displayed	Operation lamp and Standby lamp are blinking alternately.	● Inter-unit circuit or open phase in the outdoor unit power ● Insufficient gas	● Reversed phase or open phase in the 3-phase power at one of the outdoor units in the group	● Reversed phase or open phase in the outdoor unit 3-phase power	● Same as at left
L 0 2 displayed **L 1 3** displayed	Both the Operation lamp and Standby lamp are blinking together.	● Indoor-outdoor unit type mismatch	● Same as at left	● Same as at left	
L 0 7 displayed		———	———	● Control wiring for group control is connected to the indoor unit, however it is set for individual operation.	● Same as at left
P 0 9 displayed	Timer lamp and Standby lamp are blinking alternately.	● The indoor unit ceiling panel connector is not connected correctly.	● Ceiling panel connector at one of the indoor units in the group is not connected correctly.	● Indoor unit ceiling panel connector is not connected correctly.	● Same as at left

8. HOW TO INSTALL THE TIMER WIRED REMOTE CONTROLLER

NOTE

Refer to the Instraction Manual attaehed to the Timer Remote Controller.

1-13. HOW TO PROCESS TUBING

The liquid tubing side is connected by a flare nut, and the gas tubing side is connected by brazing.

1. Connecting the Refrigerant Tubing

Use of the Flaring Method

Many conventional split system air conditioners employ the flaring method to connect refrigerant tubes which run between indoor and outdoor units. In this method, the copper tubes are flared at each end and connected with flare nuts.

Flaring Procedure with a Flare Tool

(1) Cut the copper tube to the required length with a tube cutter. It is recommended to cut approx. 12 – 20 in. longer than the tubing length you estimate.

(2) Remove burrs at each end of the copper tubing with a tube reamer or file. This process is important and should be done carefully to make a good flare. Be sure to keep any contaminants (moisture, dirt, metal filings, etc.) from entering the tubing. (Figs. 1-110 and 1-111)

Deburring

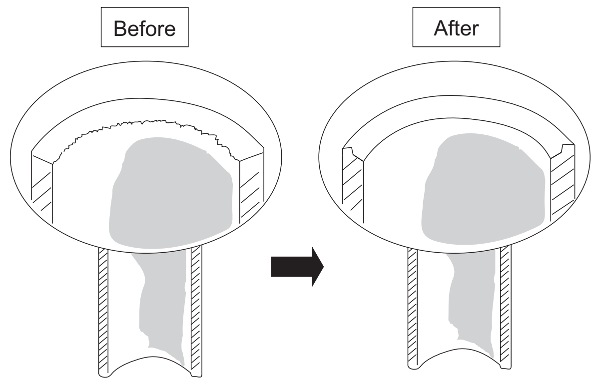


Fig. 1-110

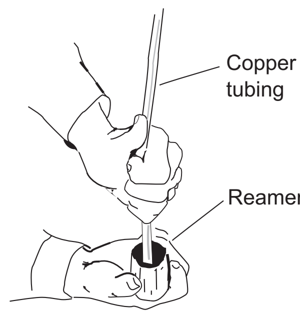


Fig. 1-111

NOTE

When reaming, hold the tube end downward and be sure that no copper scraps fall into the tube. (Fig. 1-111)

(3) Remove the flare nut from the unit and be sure to mount it on the copper tube.

(4) Make a flare at the end of the copper tube with a flare tool. (Fig. 1-112)

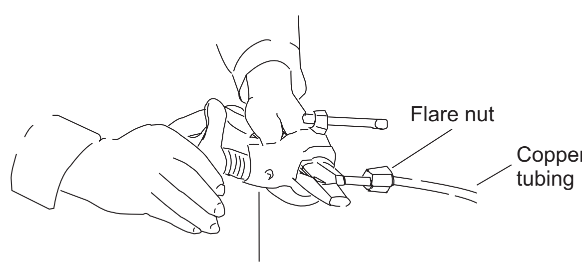


Fig. 1-112

NOTE

A good flare should have the following characteristics:

- inside surface is glossy and smooth
- edge is smooth
- tapered sides are of uniform length

Caution Before Connecting Tubes Tightly

(1) Apply a sealing cap or water-proof tape to prevent dust or water from entering the tubes before they are used.

(2) Be sure to apply refrigerant lubricant to the matching surfaces of the flare and union before connecting them together. This is effective for reducing gas leaks. (Fig. 1-113)

(3) For proper connection, align the union tube and flare tube straight with each other, then screw on the flare nut lightly at first to obtain a smooth match. (Fig. 1-114)

- Adjust the shape of the liquid tube using a tube bender at the installation site and connect it to the liquid tubing side valve using a flare.

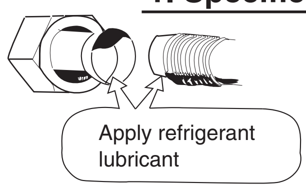


Fig. 1-113

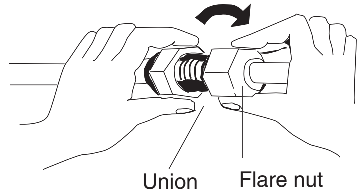


Fig. 1-114

Cautions During Brazing

- **Replace air inside the tube with nitrogen gas to prevent copper oxide film from forming during the brazing process. (Oxygen, carbon dioxide and Freon are not acceptable.)**
- **Do not allow the tubing to get too hot during brazing. The nitrogen gas inside the tubing may overheat, causing refrigerant system valves to become damaged. Therefore allow the tubing to cool when brazing.**
- **Use a reducing valve for the nitrogen cylinder.**
- **Do not use agents intended to prevent the formation of oxide film. These agents adversely affect the refrigerant and refrigerant oil, and may cause damage or malfunctions.**

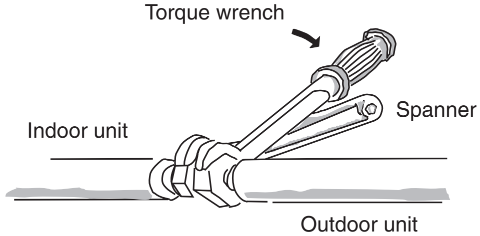


Fig. 1-115

2. Connecting Tubing between Indoor and Outdoor Units

(1) Tightly connect the indoor-side refrigerant tubing extended from the wall with the outdoor-side tubing.

(2) To fasten the flare nuts, apply specified torque as shown at right.

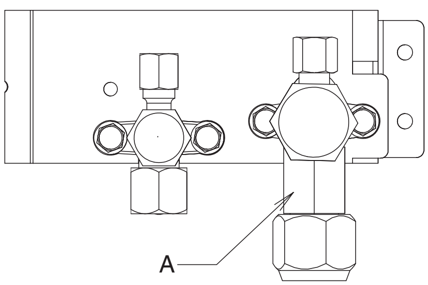


Fig. 1-116

- When removing the flare nuts from the tubing connections, or when tightening them after connecting the tubing, be sure to use 2 adjustable wrenches or spanners. (Fig. 1-115)
  If the flare nuts are over-tightened, the flare may be damaged, which could result in refrigerant leakage and cause injury or asphyxiation to room occupants.
- When removing or tightening the gas tube flare nut, use 2 adjustable wrenches together: one at the gas tube flare nut, and one at part A. (Fig. 1-116)
- For the flare nuts at tubing connections, be sure to use the flare nuts that were supplied with the unit, or else flare nuts for R410A (type 2). The refrigerant tubing that is used must be of the correct wall thickness as shown in the table at right.

Tube diameter	Tightening torque (approximate)	Tube thickness (in.)
ø1/4" (6.35 mm)	120 – 160 in.lbs (140 – 180 kgf · cm)	t0.032
ø3/8" (9.52 mm)	300 – 360 in.lbs (340 – 420 kgf · cm)	t0.032
ø1/2" (12.7 mm)	430 – 480 in.lbs (490 – 550 kgf · cm)	t0.032
ø5/8" (15.88 mm)	590 – 710 in.lbs (680 – 820 kgf · cm)	t0.04

Because the pressure is approximately 1.6 times higher than conventional refrigerant pressure, the use of ordinary flare nuts (type 1) or thin-walled tubes may result in tube rupture, injury, or asphyxiation caused by refrigerant leakage.

- In order to prevent damage to the flare caused by over-tightening of the flare nuts, use the table above as a guide when tightening.
- When tightening the flare nut on the liquid tube, use an adjustable wrench with a nominal handle length of 7-7/8 in.

- Do not use a spanner to tighten the valve stem caps. Doing so may damage the valves.
- Depending on the installation conditions, applying excessive torque may cause the nuts to crack.

Precautions for Packed Valve Operation

- If the packed valve is left for a long time with the valve stem cap removed, refrigerant will leak from the valve. Therefore, do not leave the valve stem cap removed.
- Use a torque wrench to securely tighten the valve stem cap.
- Valve stem cap tightening torque:

Charging port	70 – 85 in.lbs (80 – 100 kgf • cm)
ø3/8" (Liquid side)	160 – 180 in.lbs (190 – 210 kgf • cm)
ø5/8" (Gas side)	240 – 270 in.lbs (280 – 320 kgf • cm)

3. Insulating the Refrigerant Tubing

Tubing Insulation

- Thermal insulation must be applied to all unit tubing, including the distribution joint (purchased separately).
  * For gas tubing, the insulation material must be heat resistant to 248°F or above. For other tubing, it must be heat resistant to 176°F or above.
  Insulation material thickness must be 13/32 in. or greater.

CAUTION

If the exterior of the outdoor unit valves has been finished with a square duct covering, make sure you allow sufficient space to access the valves and to allow the panels to be attached and removed.

Taping the flare nuts

Wind the white insulation tape around the flare nuts at the gas tube connections. Then cover up the tubing connections with the flare insulator, and fill the gap at the union with the supplied black insulation tape. Finally, fasten the insulator at both ends with the supplied vinyl clamps. (Fig. 1-119)

Insulation material

The material used for insulation must have good insulation characteristics, be easy to use, be age resistant, and must not easily absorb moisture.

CAUTION

After a tube has been insulated, never try to bend it into a narrow curve because it can cause the tube to break or crack.

Packed valve

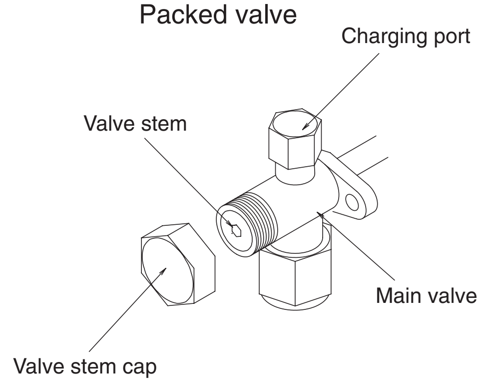


Fig. 1-117

2 tubes arranged together

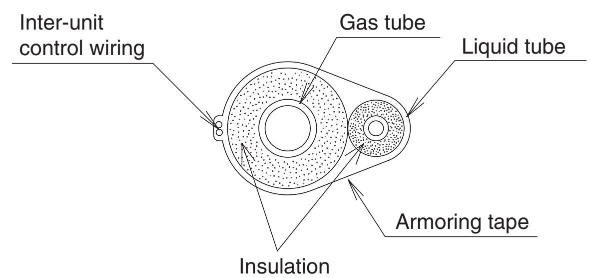


Fig. 1-118

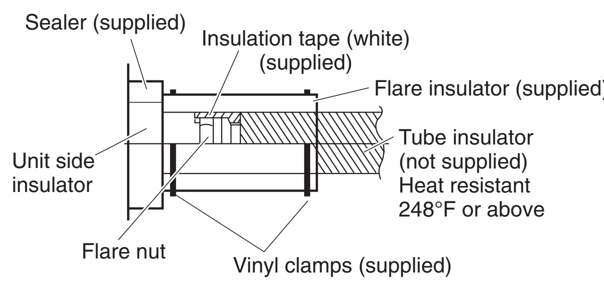


Fig. 1-119

Never grasp the drain or refrigerant connecting outlets when moving the unit.

4. Taping the Tubes

(1) At this time, the refrigerant tubes (and electrical wiring if local codes permit) should be taped together with armoring tape in 1 bundle. To prevent condensation from overflowing the drain pan, keep the drain hose separate from the refrigerant tubing.

(2) Wrap the armoring tape from the bottom of the outdoor unit to the top of the tubing where it enters the wall. As you wrap the tubing, overlap half of each previous tape turn.

(3) Clamp the tubing bundle to the wall, using 1 clamp approx. each meter (3 feet). (Fig. 1-120)

NOTE

Do not wind the armoring tape too tightly since this will decrease the heat insulation effect. Also ensure that the condensation drain hose splits away from the bundle and drips clear of the unit and the tubing.

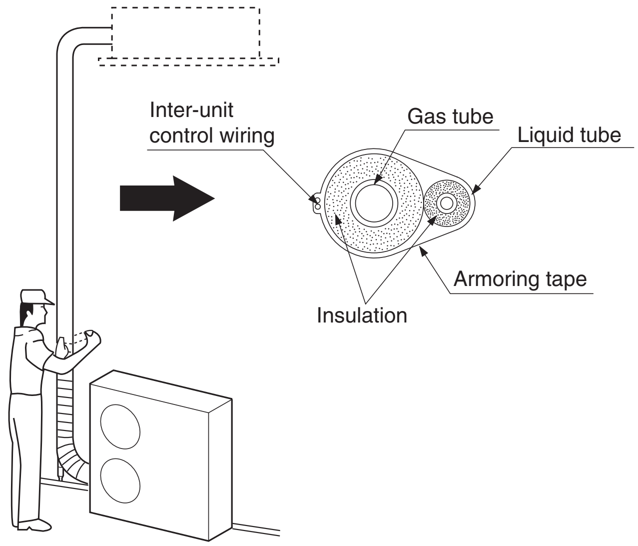


Fig. 1-120

5. Finishing the Installation

After finishing insulating and taping over the tubing, use sealing putty to seal off the hole in the wall to prevent rain and draft from entering. (Fig. 1-121)

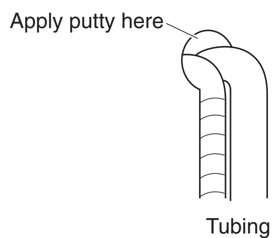


Fig. 1-121

1

1-14. LEAK TEST, EVACUATION AND ADDITIONAL REFRIGERANT CHARGE

- Perform an air-tightness test for this package A/C. Check that there is no leakage from any of the connections. Air and moisture in the refrigerant system may have undesirable effects as indicated below.
- pressure in the system rises
- operating current rises
- cooling (or heating) efficiency drops
- moisture in the refrigerant circuit may freeze and block capillary tubing
- water may lead to corrosion of parts in the refrigerant system

Therefore, the indoor unit and tubing between the indoor and outdoor unit must be leak tested and evacuated to remove any noncondensables and moisture from the system.

1

■ Air Purging with a Vacuum Pump (for Test Run) Preparation

Check that each tube (both liquid and gas tubes) between the indoor and outdoor units has been properly connected and all wiring for the test run has been completed. Remove the valve caps from both the gas and liquid service valves on the outdoor unit. Note that both liquid and gas tube service valves on the outdoor unit are kept closed at this stage.

- The refrigerant charge at the time of shipment is only guaranteed sufficient for a tubing length of up to 100 ft. The tubing may exceed this length, up to the maximum permitted length; however, an additional charge is necessary for the amount that the tubing exceeds 100 ft. (No additional refrigerating machine oil is needed.)

1. Leak Test

(1) With the service valves on the outdoor unit closed, remove the 1/4 in. flare nut and its bonnet on the gas tube service valve. (Save for reuse.)

(2) Attach a manifold valve (with pressure gauges) and dry nitrogen gas cylinder to this service port with charge hoses.



CAUTION

Use a manifold valve for air purging. If it is not available, use a stop valve for this purpose. The "Hi" knob of the manifold valve must always be kept closed.

Manifold gauge

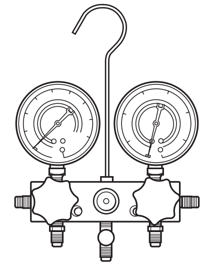


Fig. 1-122

Vacuum pump

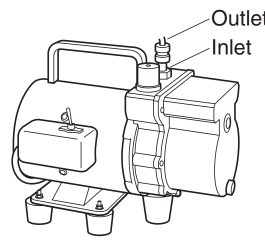


Fig. 1-123

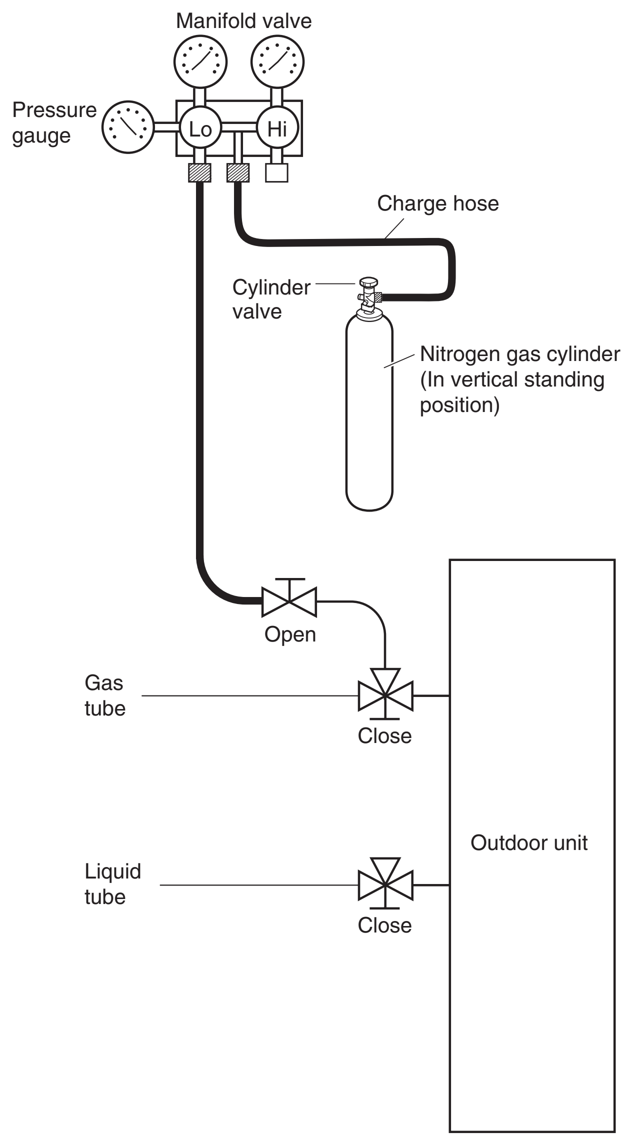


Fig. 1-124

(3) Pressurize the system up to 4.15 MPa (42 kgf/cm²G) with dry nitrogen gas and close the cylinder valve when the gauge reading reaches 4.15 MPa (42 kgf/cm²G). Then, test for leaks with liquid soap.

CAUTION

To avoid nitrogen entering the refrigerant system in a liquid state, the top of the cylinder must be higher than the bottom when you pressurize the system. Usually, the cylinder is used in a vertical standing position.

(4) Do a leak test of all joints of the tubing (both indoor and outdoor) and both gas and liquid service valves. Bubbles indicate a leak. Wipe off the soap with a clean cloth after the leak test.

(5) After the system is found to be free of leaks, relieve the nitrogen pressure by loosening the charge hose connector at the nitrogen cylinder. When the system pressure is reduced to normal, disconnect the hose from the cylinder.

2. Evacuation

Be sure to use a vacuum pump that includes a function for prevention of back-flow, in order to prevent back-flow of pump oil into the unit tubing when the pump is stopped.

- Perform vacuuming of the indoor unit and tubing. Connect the vacuum pump to the gas tube valve and apply vacuum at a pressure of –101kPa (–755 mmHg, 5 Torr) or below.
  Continue vacuum application for a minimum of 1 hour after the pressure reaches –101kPa (–755 mmHg, 5 Torr).

(1) Attach the charge hose end described in the preceding steps to the vacuum pump to evacuate the tubing and indoor unit. Confirm that the “Lo” knob of the manifold valve is open. Then, run the vacuum pump.

(2) When the desired vacuum is reached, close the “Lo” knob of the manifold valve and turn off the vacuum pump. Confirm that the gauge pressure is under –101kPa (–755 mmHg, 5 Torr) after 4 to 5 minutes of vacuum pump operation.

CAUTION

Use a cylinder specifically designed for use with R410A.

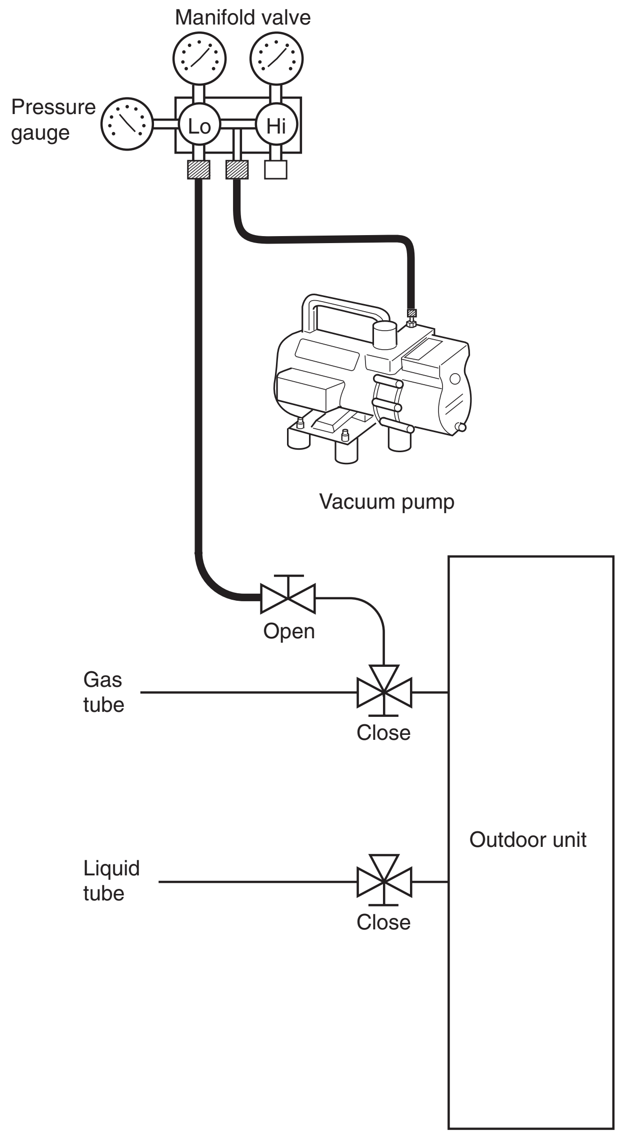


Fig. 1-125

1

3. Charging Additional Refrigerant

- Charging additional refrigerant (calculated from the liquid tube length as shown in Section "1-12. Installation Instructions, 1. Tubing Size, Table 1-2 Tubing Data for Models", Amount of additional refrigerant charge) using the liquid tube service valve. (Fig. 1-126)
- Use a balance to measure the refrigerant accurately.
- If the additional refrigerant charge amount cannot be charged at once, charge the remaining refrigerant in liquid form by using the gas tube service valve with the system in Cooling mode at the time of test run. (Fig. 1-127)
  * If an additional refrigerant charge has been performed, list the refrigerant tubing length and amount of additional refrigerant charge on the product label (inside the panel).

4. Finishing the Job

(1) With a hex wrench, turn the liquid tube service valve stem counter-clockwise to fully open the valve.
(2) Turn the gas tube service valve stem counter-clockwise to fully open the valve.

CAUTION **To avoid gas from leaking when removing the charge hose, make sure the stem of the gas tube is turned all the way out ("BACK SEAT") position.**

(3) Loosen the charge hose connected to the gas tube service port (5/16".) slightly to release the pressure, then remove the hose.

(4) Replace the 5/16". flare nut and its bonnet on the gas tube service port and fasten the flare nut securely with an adjustable wrench or box wrench. This process is very important to prevent gas from leaking from the system.

(5) Replace the valve caps at both gas and liquid service valves and fasten them securely.

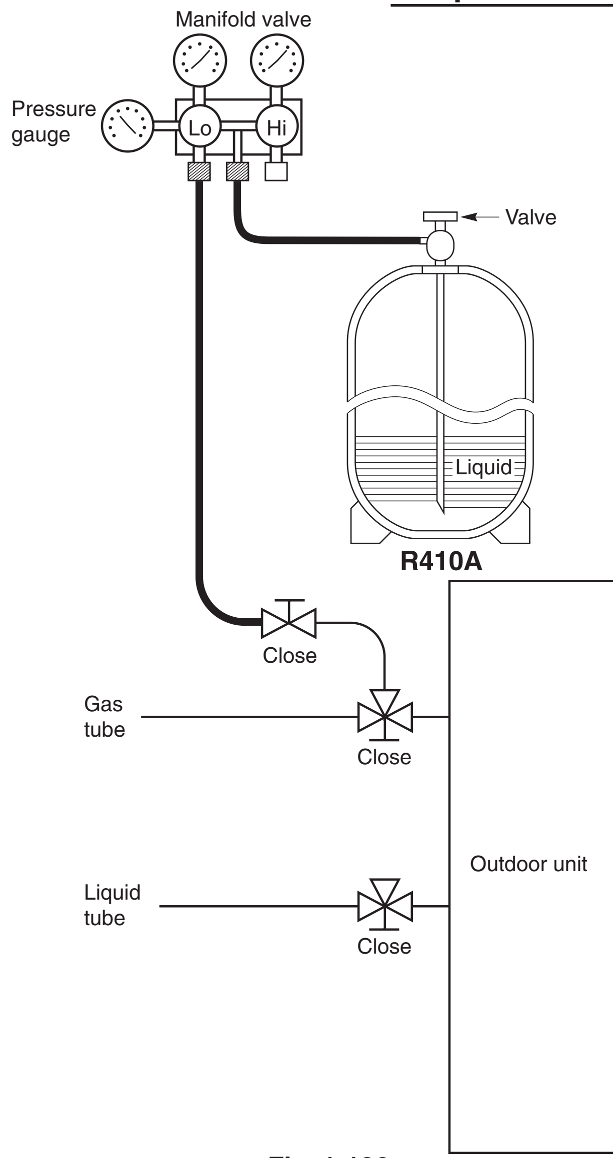


Fig. 1-126

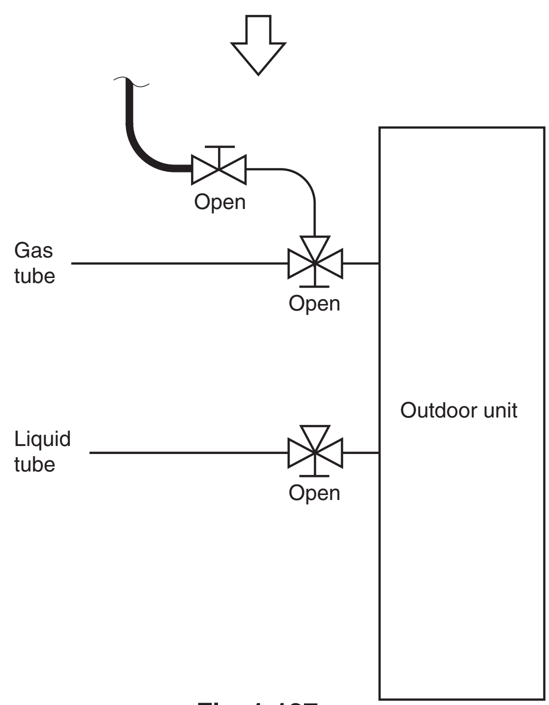


Fig. 1-127

2. PROCESSES AND FUNCTIONS

2-1 Room Temperature Control

The unit adjusts room temperature by turning the outdoor unit's compressor ON and OFF.
This process is controlled by the **thermostat** located in the remote control unit.
The figures on this and the next pages show how each part of the system performs when the room temperature changes and the thermostat activates the compressor to start **(thermo ON)** or stop **(thermo OFF)**. Fig. 1 shows about the cooling cycle, and Fig. 2 shows about the heating cycle.

(A) Cooling

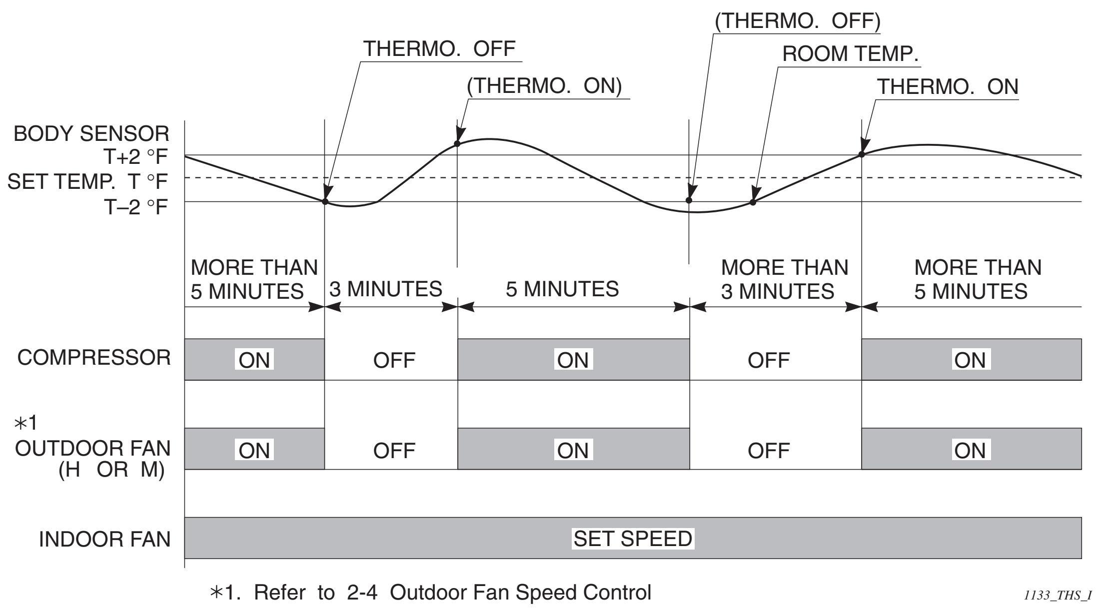


Fig. 1

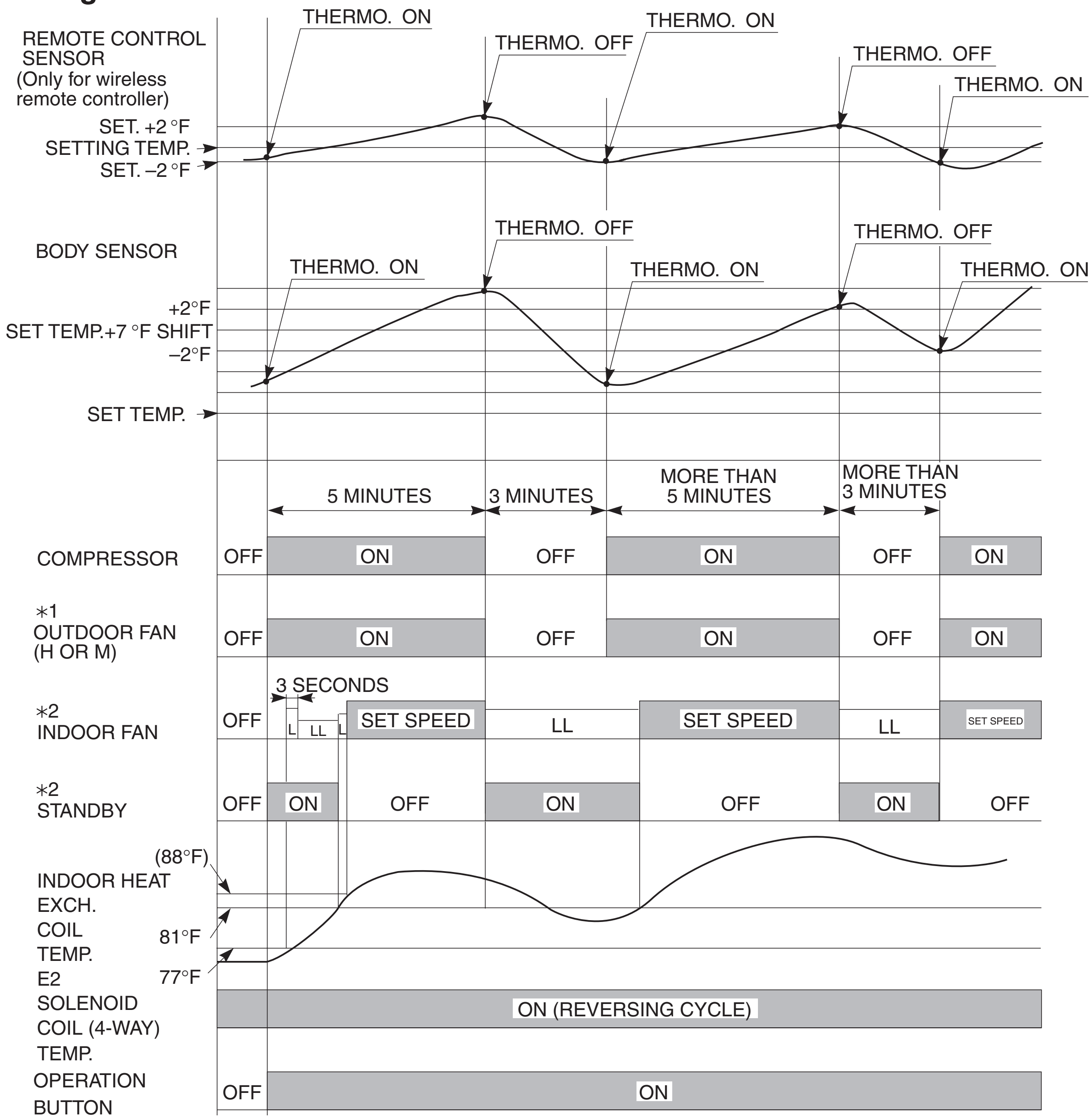
Chart Summary and Explanations

- ❑ Once the compressor **starts**, it keeps running for 5 minutes.
- ❑ Once the compressor **stops**, it will not start running again for 3 minutes.
- ❑ If you **change** the operation mode (**HEAT**, **COOL** or **FAN**) during the heating cycle, the control circuit **stops** the compressor for 3 minutes.
- ❑ For 5 minutes after the compressor is first turned on, and for 3 minutes after it is turned off, the compressor is not controlled by the room sensor.
- ❑ **Thermo ON:** When room temperature rises 2 F (4˚F when set on body sensor) above the set temperature T˚, (T˚+2˚F or T˚+4˚F when set on body sensor):

  Compressor → **ON**
- ❑ **Thermo OFF**: When the room temperature is –2˚F below the set temperature T˚:

  Compressor → **OFF**

(B) Heating



*1. Refer to 2-4 Outdoor Fan Speed Control
*2. Refer to 2-2 Cold Draft Prevention (Heating)

1134_THS_I

Fig. 2

Chart Summary and Explanations

- ❑ Once the compressor **starts**, it keeps running for 5 minutes.
- ❑ Once the compressor **stops**, it will not start running again for 3 minutes.
- ❑ If you change the operation mode (**HEAT**, **COOL** or **FAN**) during the heating cycle, the control circuit **stops** the compressor for **3 minutes**.
- ❑ For 5 minutes after the compressor is first turned on, and for 3 minutes after it is turned off, the compressor is not controlled by the room sensor.

When set on remote control sensor

Thermo ON: When room temperature is –2˚F below the set temperature T˚.

Compressor → ON

Thermo OFF: When the room temperature is 2˚F above the set temperature T˚, (T˚+2 ˚F)

Compressor → OFF

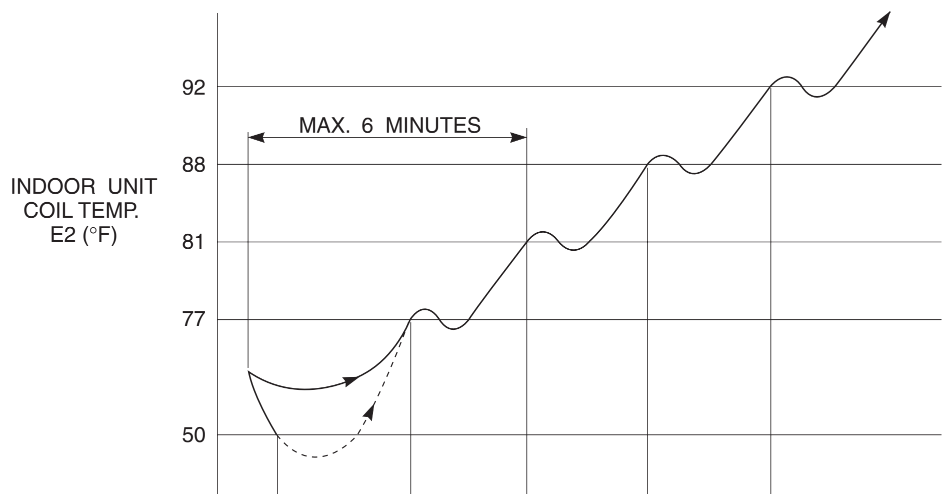
When set on body sensor

NOTE: In case of Body sensor, operating temperature is shifted to setting temperature +7˚F.

2-2 Cold Draft Prevention (Heating Cycle)

The cold draft prevention function controls indoor fan speed so a strong draft of cold air will not blow out before the indoor heat exchange coils have warmed up.

- ❑ STANDBY shows on the remote controller when the indoor fan speed is LL (very low) or OFF. This condition occurs in the following 3 cases:
  - During Thermo OFF (refer to 2-1 B. Room Temperature Control, Heating)
  - During the defrosting operation (refer to 2-10 Defrosting Control, Heating)
  - Until either the coil temperature E2 reaches 81°F or when a maximum of 6 minutes has past.
- ❑ The indoor fan motor operates in L instead of LL for 3 seconds as it starts to give the fan an initial boost.



SET FAN SPEED							
	AUTO OR H	LL	LL/OFF	LL	L	M	H
	M	LL	LL/OFF	LL	L	M	M
	L	LL	LL/OFF	LL	L	L	L
"STANDBY" INDICATOR			"STANDBY" APPEARS				

LL= Very low speed
L= Low speed
M= Medium speed
H= High speed

1135_THS_I

Fig. 3

Chart Summary and Explanations

- ❑ The main idea of this chart is to show that the indoor fan speed increases and gets closer to the set fan speed as the coil temperature **E2** rises.
- ❑ The indoor unit fs coil temperature is taken from sensor **E2** located in the middle of the indoor heat exchange coil.
- ❑ The dotted line shows that the indoor fan motor is **OFF**. When the temperature at sensor **E2** falls below 50 ˚F, the indoor fan motor stops running.

2-3 Automatic Fan Speed (Indoor Unit)

By pressing the FAN SPEED button on the remote controller, the fan speed can be set at one of four steps: AUTO., HI., MED., or LO. When set at AUTO. the indoor unit fan speed will be automatically adjusted to the room temperature as the two charts shown below.

(A) Cooling

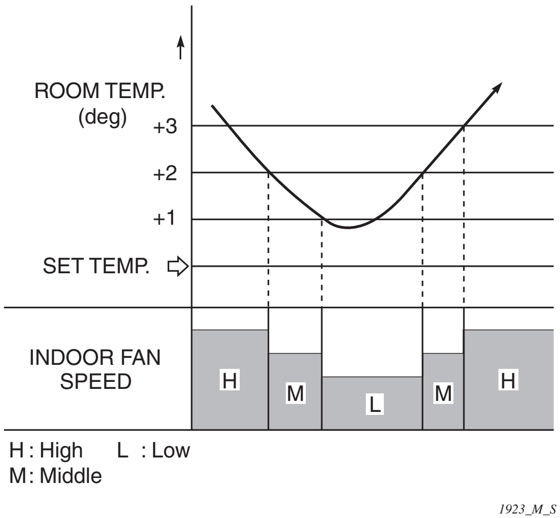


Fig. 4

Chart Explanations and notes

- ❑ When the fan speed changes, it keeps the speed step for at least 3 minutes, even if the temperature changes to another speed step during the time.

(B) Heating

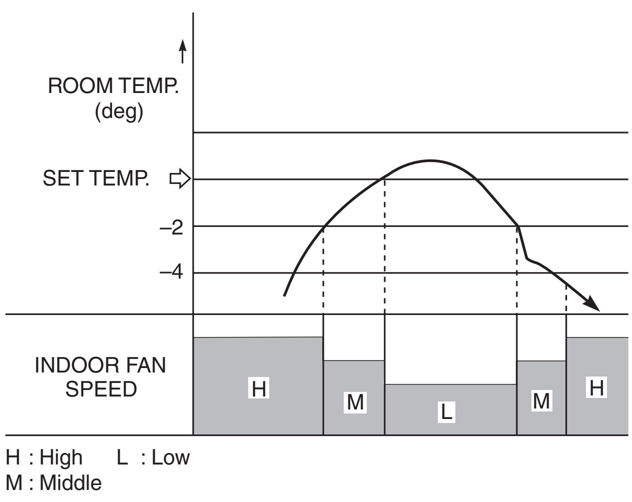


Fig. 5

Chart Explanations and notes

- ❑ When the fan speed changes, it keeps the speed step for at least 1 minute, even if the temperature changes to another speed step during the time.

2

2-4 Control Functions

Electronic control valve control
Opening of the electronic control valve is controlled so that the appropriate operating conditions are maintained, based on the signal from each sensor (discharge temperature [TD], intake temperature [TS], outdoor heat exchanger temperature [C1], and indoor heat exchanger temperature [E1, E2]).

Discharge temperature release control

(1) This control lowers the operating frequency of the compressor when electronic control valve control is unable to maintain the appropriate operating conditions because the discharge temperature fails to decline or because there is a sudden increase in the discharge temperature.
(2) If the discharge temperature exceeds 232°F, the compressor is stopped and then restarted. (Error count = 1)
(3) The error count is cleared when operation has continued for 10 minutes after the compressor was restarted.
(4) If (2) repeats 4 times without the error count being cleared (error count = 4), alarm "P03" occurs.

Current release control

The compressor operating frequency is controlled so that the current that is input to the inverter compressor does not exceed the designated value (control value).

Outdoor unit fan control

1. Cooling fan control

(1) The outdoor unit fan minimum speed and maximum speed are determined according to the outdoor air temperature and the operating frequency. The speed is controlled in stages between the minimum speed and maximum speed, based on the outdoor heat exchanger temperature (C2) at that time.
(2) For 60 seconds after start, the outdoor unit fan operates at maximum speed, as determined by the outdoor air temperature and operating frequency at that time. Subsequently, the fan operates at low speed until the outdoor heat exchanger temperature (C2) rises.
(3) If the discharge temperature (TD) sensor is abnormal or has become disconnected, the fan will not operate and a protective device is activated.

2. Heating fan control

(1) The outdoor unit fan minimum speed and maximum speed are determined according to the outdoor air temperature and operating frequency. The speed is controlled in stages between the minimum speed and maximum speed, based on the outdoor heat exchanger temperature (C1) at that time.
(2) If the outdoor heat exchanger temperature (C1) is 75°F or higher continuously for 5 minutes, fan operation may stop (same conditions as when the thermostat is OFF). In this case, the fan will restart after 3 minutes.
(3) This control is not performed during the 3 minutes after start, for 1 minute after defrost ends, and while defrost is in progress.

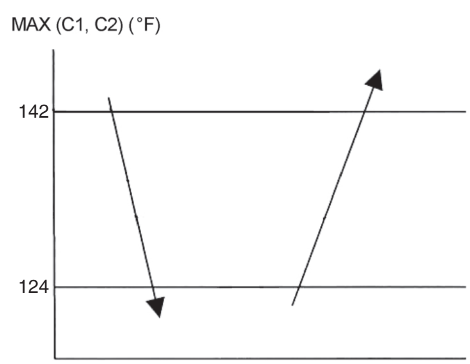
Coil heating control

(1) This control applies current to the coil of the stopped compressor to heat the compressor in place of the crank case heater.
(2) When the discharge temperature (TD) is less than 77°F, the current application judgment is made based on the outdoor air temperature (TO).
    - Current application starts when the outdoor air temperature drops to 59°F or below.
    - Current application stops when the outdoor air temperature rises above 64°F.

Control for prevention of short intermittent operation

In order to protect the compressor, this control does not allow the compressor to be stopped for 10 minutes after operation starts, even if the thermostat OFF signal is received from the indoor unit.
Control for prevention of high cooling loads
This control reduces abnormal high-pressure increases during cooling operation.

(1) If MAX (C1, C2) (C1 & C2: outdoor heat exchanger temperature) is less than 124°F, the compressor performs normal operation.
(2) If MAX (C1, C2) is 124°F or higher and less than 142°F, the revolution of the compressor is controlled to prevent the high pressure being increased.
(3) If MAX (C1, C2) is 142°F or higher, the compressor stops once. The compressor restarts three times, and if the temperature dose not decrease to less than 142°F, the alert "P20" is displayed.



Overcurrent protection control

(1) If the overcurrent protection circuit detects abnormal current, the compressor is stopped. (Error count = 1.) The compressor then restarts after 3 minutes.
(2) If compressor start/stop is repeated 4 times (error count = 4), alarm "P26", "P29" or "H01" (count = 2 in this case only) occurs. Operation stops and does not restart.

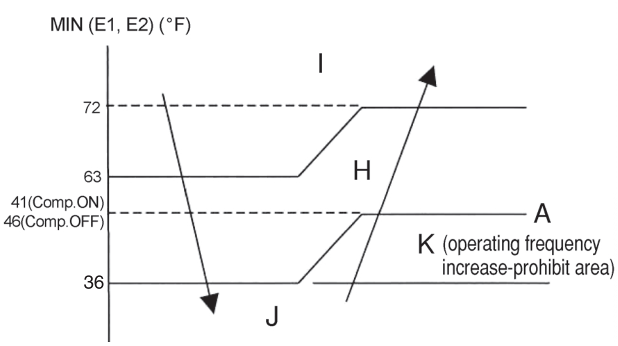
Current release value shift control

(1) This control is intended to improve compressor reliability by preventing continuous high-frequency operation under overload conditions when the outdoor air temperature is high, and by preventing intermittent operation through "control for prevention of high cooling loads".
(2) The control value for "current release control" is corrected according to the outdoor air temperature (TO).
Depending on the temperature, the control value is lowered to 50 – 90% for cooling operation, and to 60 – 98% for heating operation.

Freeze prevention (low-temperature release) control

The below control is performed during cooling operation (including dehumidifying operation), using whichever of the indoor heat exchanger temperatures (E1 or E2) is lower. (See the figure below.)

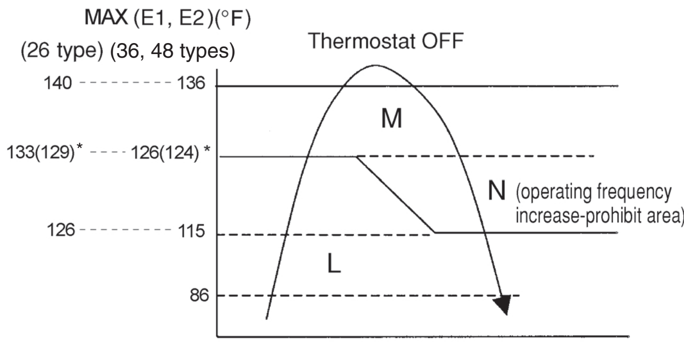
(1) If a temperature in the "J" area (operating frequency reduction and thermostat OFF area) is detected for 6 minutes, the compressor operating frequency is reduced. The compressor operating frequency is reduced every 30 seconds as long as the temperature remains within this area.
(2) If the temperature is in the "K" area (operating frequency increase-prohibit area), the compressor operating frequency is maintained.
(3) If the temperature is in the "H" area (operating frequency control area), and the outdoor air temperature is less than 90°F, the compressor maximum operating frequency is limited according to the indoor unit fan speed.
(4) If the temperature is in the "I" area (normal operating area), the compressors operate normally.
(5) If the temperature is continuously in the "J" area and the compressor operating frequency reaches 0, then temperature A (temperature for changing from "J" area to "H" area) is raised from 41°F to 46°F, and operation continues with the thermostat OFF until the temperature reaches the "H" area.



Heating high-load control

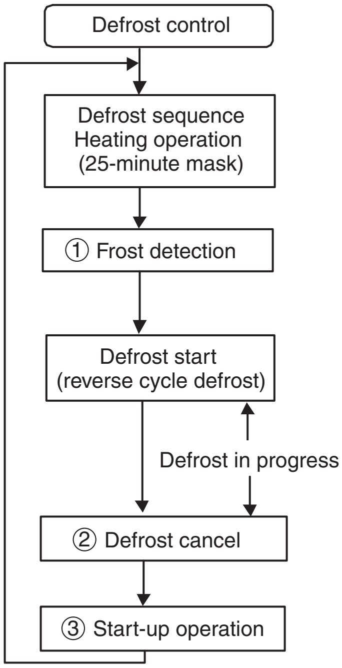
The below control is performed during heating operation, based on the indoor heat exchanger temperature MAX (E1,E2).

(1) If the temperature is in the "M" area (operating frequency reduction and thermostat OFF area), the compressor operating frequency is reduced.
The compressor operating frequency is reduced every 30 seconds as long as the temperature remains within this area.
(2) If the temperature is continuously in the "M" area, the thermostat turns OFF.
(3) If the temperature is in the "N" area, operating frequency increases are prohibited.
(4) If the temperature is in the "L" area, the operating frequency is raised to the original frequency (the frequency prior to frequency reduction) by 6 Hz every 60 seconds.



* When the compressor turns ON and the E2 temperature rises, the temperature at which the "M" area is first entered is 124°F (36, 42 types) or higher than 129°F (26 type).
If the E1, E2 temperature subsequently falls to the "L" area, the temperature for entering the "M" area is raised to 126°F (36, 42 types) or 133°F (26 type).
However if the E1, E2 temperature falls to the "L" area and falls below 86°F, then the temperature for entering the "M" area is changed back to 124°F (36, 42 types) or 129°F (26 type).

Defrost control

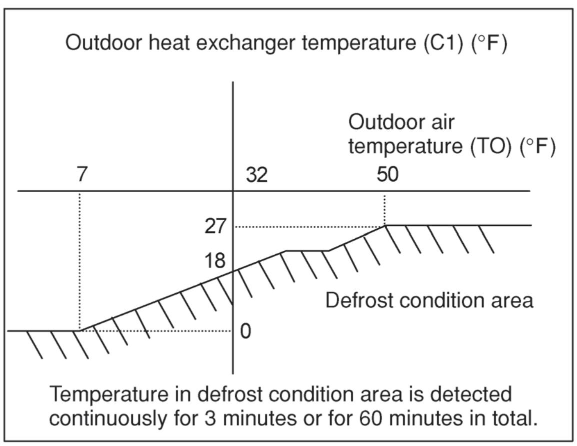


- Operating frequency: 61.8 Hz
- Outdoor unit fan: OFF
- Electronic control valve: step 300
- 4-way valve: OFF
- Indoor unit fan: OFF

2

(1) Frost detection

1. Outdoor heat exchanger temperature (C1) method (15-minute mask after operation start)



2. Outdoor air temperature is 7°F or above and outdoor heat exchanger temperature (C1) of 0°F or below is detected continuously for 20 seconds.
3. Outdoor air temperature is below 7°F and outdoor heat exchanger temperature (C1) of below (outdoor air temperature -10)°F is detected continuously for 20 seconds.

(2) Defrost cancel

• Defrost end conditions

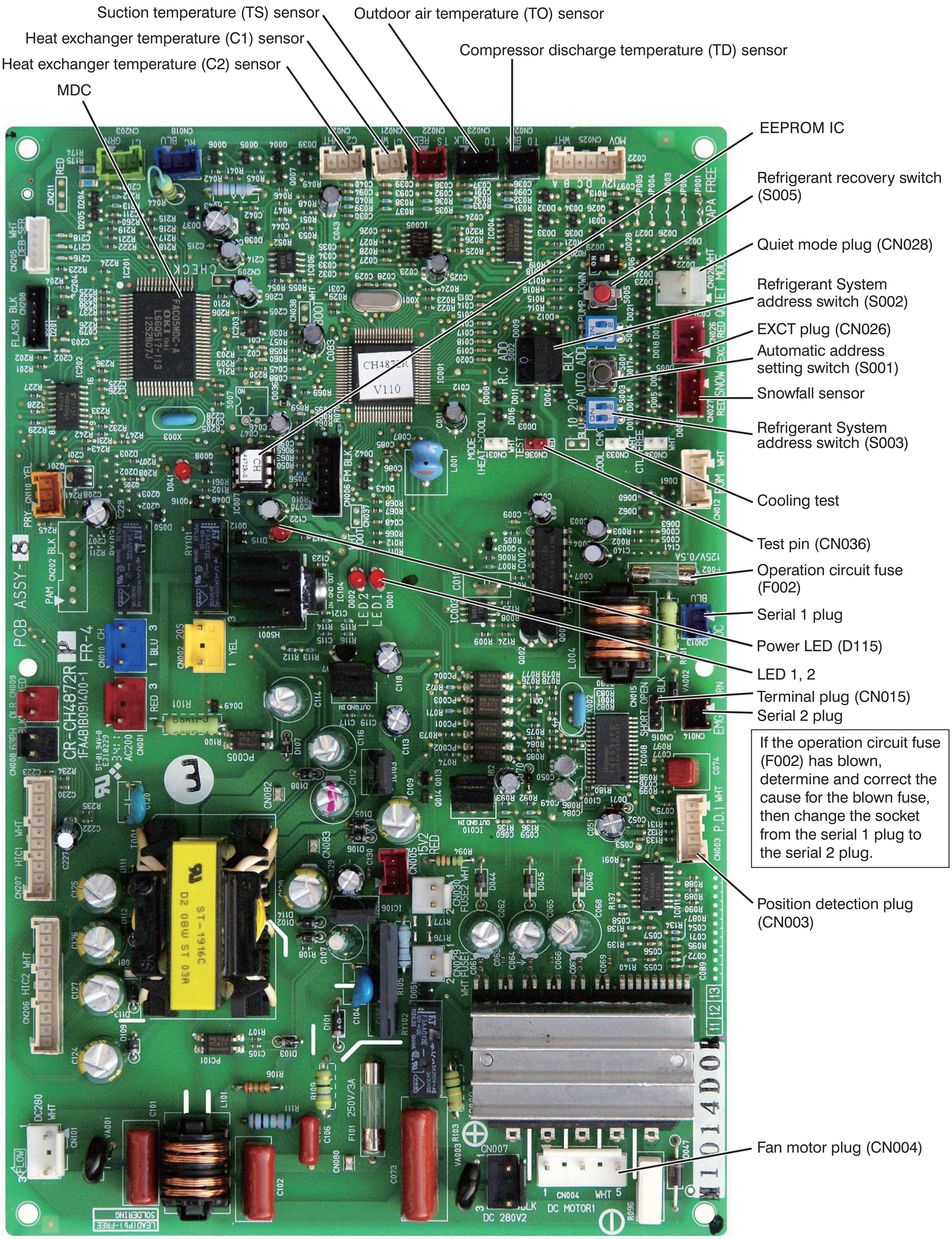
1. Outdoor heat exchanger temperature (C1) rises to 54°F or higher.
2. Outdoor heat exchanger temperature is 45°F or higher continuously for 1 minute.
3. Defrost time of 10 minutes has elapsed.

(3) Startup operation

After defrost ends, the compressors and outdoor unit fan stop for approximately 40 seconds, then operation begins in heating mode.

2-5 Outdoor Unit Control PCB

(1) Layout Diagram (CR-CH4872R)



2-6 Outdoor Unit Control PCB (CR-CH4272R)

(1) Explanation of Functions

S001

Push-button switch (black): Automatic address setting switch

- If the system address switch (S002: set to 0 at time of shipment) setting is other than "0" (central control), press this switch once to automatically set the addresses at all indoor units which are in the same system, and are connected to that outdoor unit. During automatic address setting, the 2 LEDs (red) on the outdoor unit control PCB blink alternately.
  (Pressing this switch again stops automatic address setting.)
- If automatic address setting is currently in progress at another system that is subject to central control, only LED 1 on the outdoor unit control PCB blinks to indicate that automatic address setting is in progress at another unit. If automatic address setting is in progress at another unit, automatic address setting cannot be started at this unit, even if S001 is pressed.

S002

Rotary switch (10 positions, black): System address setting switch

- This switch is set to 0 (1 system control) at the time of shipment. However the address for each system must be set when multiple systems are controlled or when central control is used. (Figure 1)
- If the system address is set to 0, automatic address setting is started when the power is turned ON. Therefore it is not necessary to use switch SW01 and perform automatic address setting in the case of single or simultaneous-operation multi control of a single system.
- When using central control for multiple systems, a maximum of 30 systems (maximum 64 units) can be connected. In the case of group control or central control, set the system address to a setting other than 0 (1 or above).
- If the number of systems is greater than 9, this switch can be used in combination with DIP switch S003 to set up to 30 systems. The setting can be made as high as 39, however all settings above 30 are handled as 30 for control. (For details, refer to Table 1.)
- If system addresses are duplicated (the same address exists more than once), LED 1 on the outdoor unit control PCB lights up, and alarm "L04" is displayed on the remote controller.

S003

DIP switch (2P, blue): System address 10s-digit and 20s-digit place setting switch

- When setting 10 systems or more, set this switch in combination with S002.
- For 10 – 19 systems, set 1P (10s-digit place) to ON.
- For 20 – 29 systems, set 2P (20s-digit place) to ON, and set 1P (10s-digit place) to OFF.
- For 30 systems, set both 1P (10s-digit place) and 2P (20s-digit place) to ON. (For details, refer to Table 1.)

S005

Refrigerant recovery switch (red button switch)

- Press this switch to perform refrigerant recovery control using cooling operation. The indoor unit fan will operate at HIGH and 55 Hz for a maximum of 10 minutes. When refrigerant recovery is completed, close the valves and press this switch to stop the operation.

Test (CN036)

2P plug (red): Pin used for PCB inspection at the factory

EXCT (CN026)

3P plug (red): Can be used for demand control

- The operating ranges are shown in the table.

Short-circuited		Operating range
2P and 3P	1P and 3P	
0	0	normal (at shipment from factory)
0	1	rated capacity
1	0	70%
1	1	0%

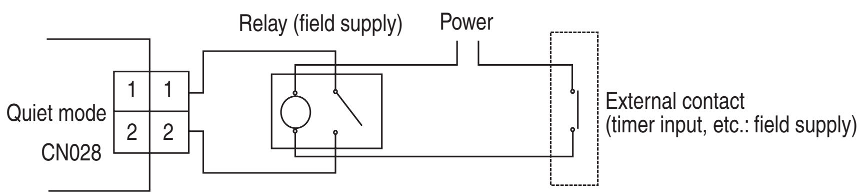
Terminal plug (CN015)

3P plug (black): Terminal plug for the communications line
- At the time of shipment from the factory, the short-circuiting socket (2P, black) is installed between pins 1 and 2 on the terminal plug (terminal = yes).
- When central control is used for multiple systems, leave the short-circuiting socket in place only on the outdoor unit with a system address of 1. At all other outdoor units (other than unit No. 1), move the short-circuiting socket to between 2 and 3 (terminal = no). If multiple short-circuiting sockets remain in place during central control, a communications failure will occur.
- In the case of a single system only (system address = 0), do not remove the short-circuiting socket. (Alarm "E04" will occur.)

Quiet mode (CN028)

2P plug (white): Enables operation in quiet mode.
- The outdoor unit fan and compressor frequencies are subject to limits during operation.
- Low-noise operation is enabled when the relay is turned ON.

● **Example of wiring**



Outdoor unit control PCB

Note 1: The maximum length of the wiring between the outdoor unit PCB and the relay is 2 m.
- Lead wire with 2P plug (special-order part: WIRE K/ CV6231612098)
- Relay, field supply, contact input specifications: DC 5 V, 0.5 mA (Recommended relay: Fuji Electric HH62SW, compatible with micro contacts)
- Use a commercially available timer (such as the Omron H5 daily time switch).

2

Table 1. Method of System Address Setting

[S002 (rotary, black), S003 (2P DIP switch, green or blue)]

	Outdoor system address No.	S002 setting (system address switch)	S003 setting	
			1P (10s-digit place)	2P (20s-digit place)
1 system only	1	0	OFF	OFF
Central control	1	1	OFF	OFF
	2	2	OFF	OFF
	3	3	OFF	OFF
	4	4	OFF	OFF
	5	5	OFF	OFF
	6	6	OFF	OFF
	7	7	OFF	OFF
	8	8	OFF	OFF
	9	9	OFF	OFF
	10	0	ON	OFF
	11	1	ON	OFF
	12	2	ON	OFF
	13	3	ON	OFF
	14	4	ON	OFF
	15	5	ON	OFF
	16	6	ON	OFF
	17	7	ON	OFF
	18	8	ON	OFF
	19	9	ON	OFF
	20	0	OFF	ON
	21	1	OFF	ON
	22	2	OFF	ON
	23	3	OFF	ON
	24	4	OFF	ON
	25	5	OFF	ON
	26	6	OFF	ON
	27	7	OFF	ON
	28	8	OFF	ON
	29	9	OFF	ON
	30	0	ON	ON

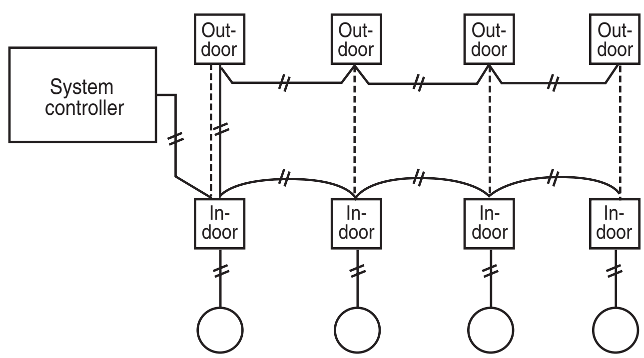
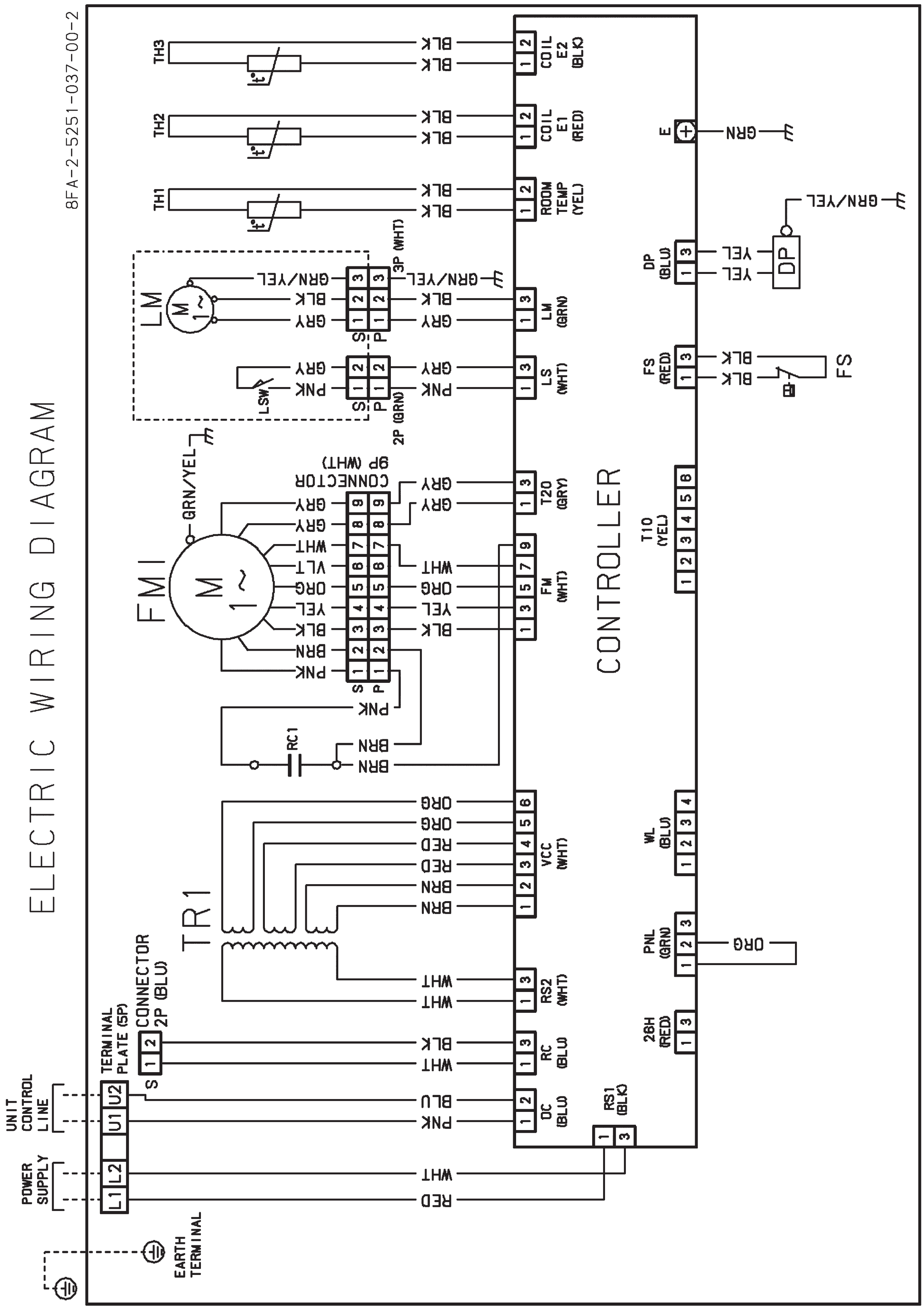


Fig. 6

3. ELECTRICAL DATA

3-1 Indoor Units

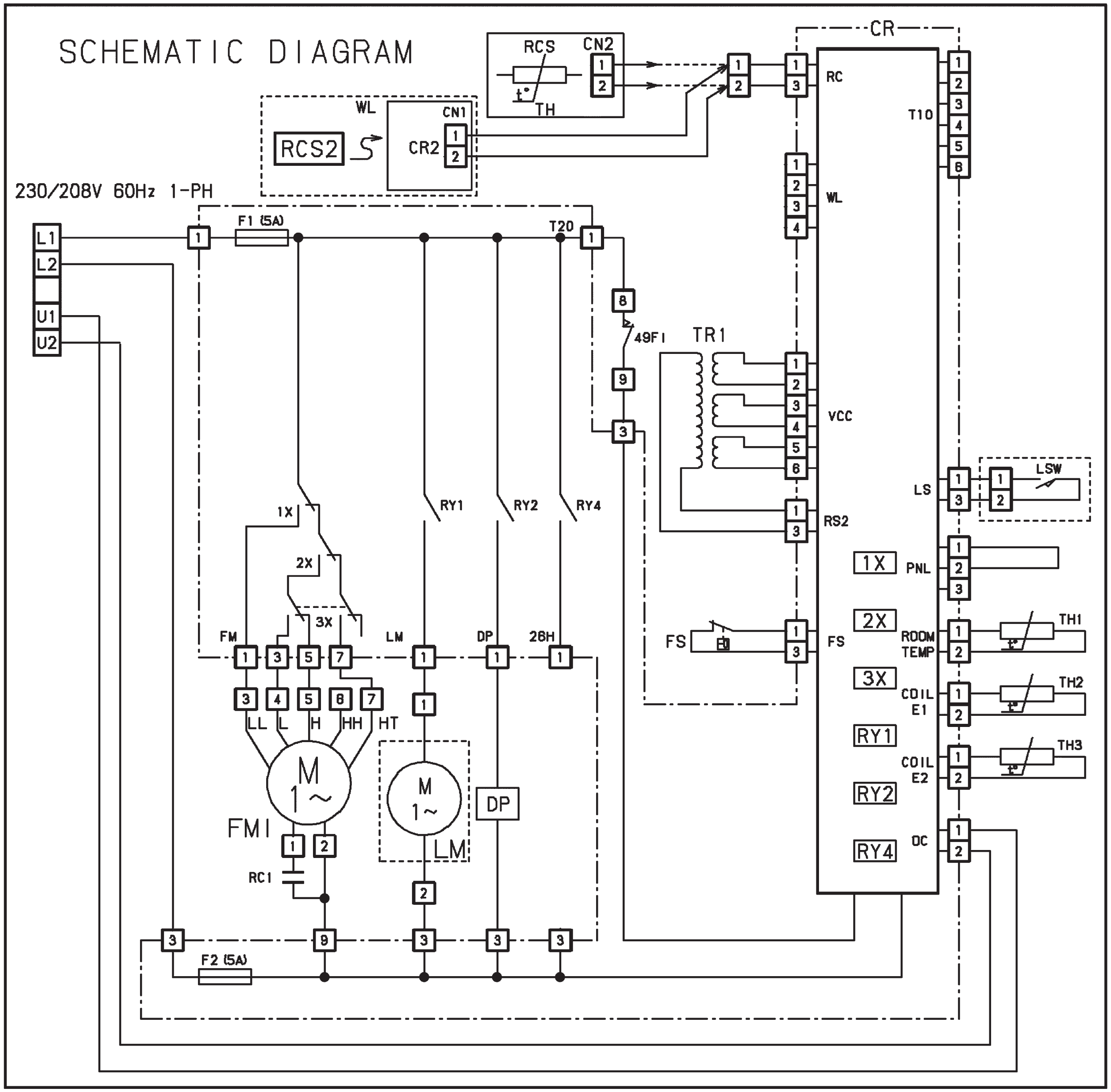
4-Way Cassette Type : S-26PU1U6, S-36PU1U6, S-42PU1U6



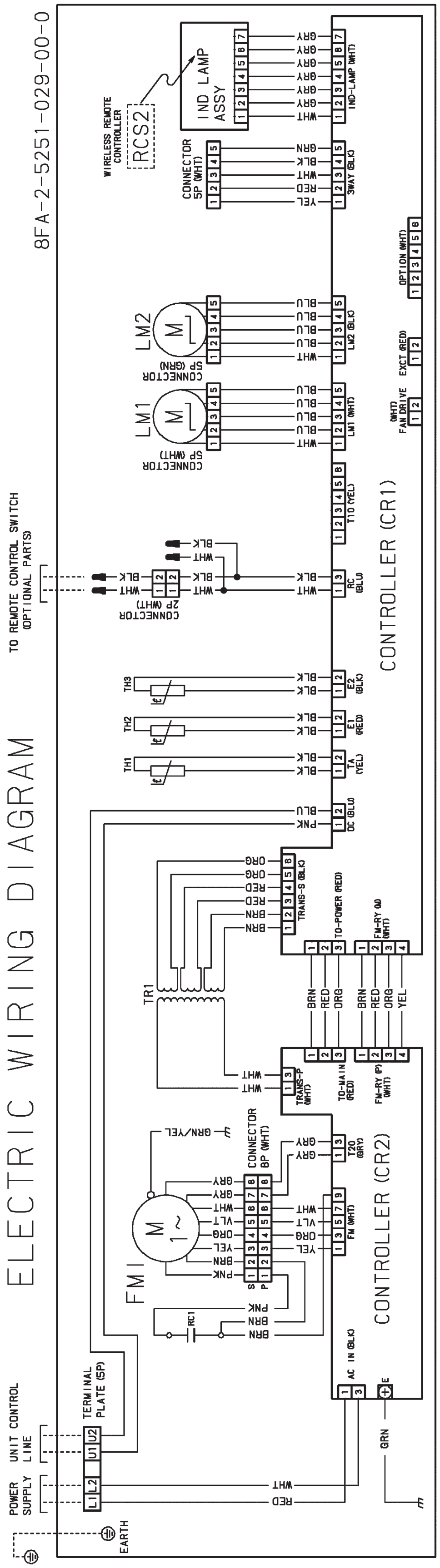
4-Way Cassette Type : S-26PU1U6, S-36PU1U6, S-42PU1U6

8FA-2-5251-037-00-2

SYMBOLS	DESCRIPTION
FMI	INDOOR FAN MOTOR
49FI	INDOOR MOTOR THERMAL PROTECTOR
RC1	RUNNING CAPACITOR
TR1	POWER TRANSFORMER
DP	DRAIN PUMP
FS	FLOAT SWITCH
TH1	ROOM THERMISTOR
TH2	THERMISTOR (INDOOR COIL E1)
TH3	THERMISTOR (INDOOR COIL E2)
F1, F2	FUSE
1X-3X	AUXILIARY RELAY
RY1, 2, 4	AUXILIARY RELAY
CR	INDOOR CONTROLLER
(LSW)	LIMIT SWITCH (OPTIONAL PARTS)
(LM)	AUTO LOUVER MOTOR (OPTIONAL PARTS)
RCS	REMOTE CONTROL SWITCH TH:ROOM THERMISTOR
(WL)	WIRELESS REMOTE CONTROLLER (OPTIONAL PARTS) CR2:WIRELESS CONTROLLER RCS2:WIRELESS REMOTE CONTROLLER
□	CONNECTOR, TERMINAL PLATE
⊕	TERMINAL



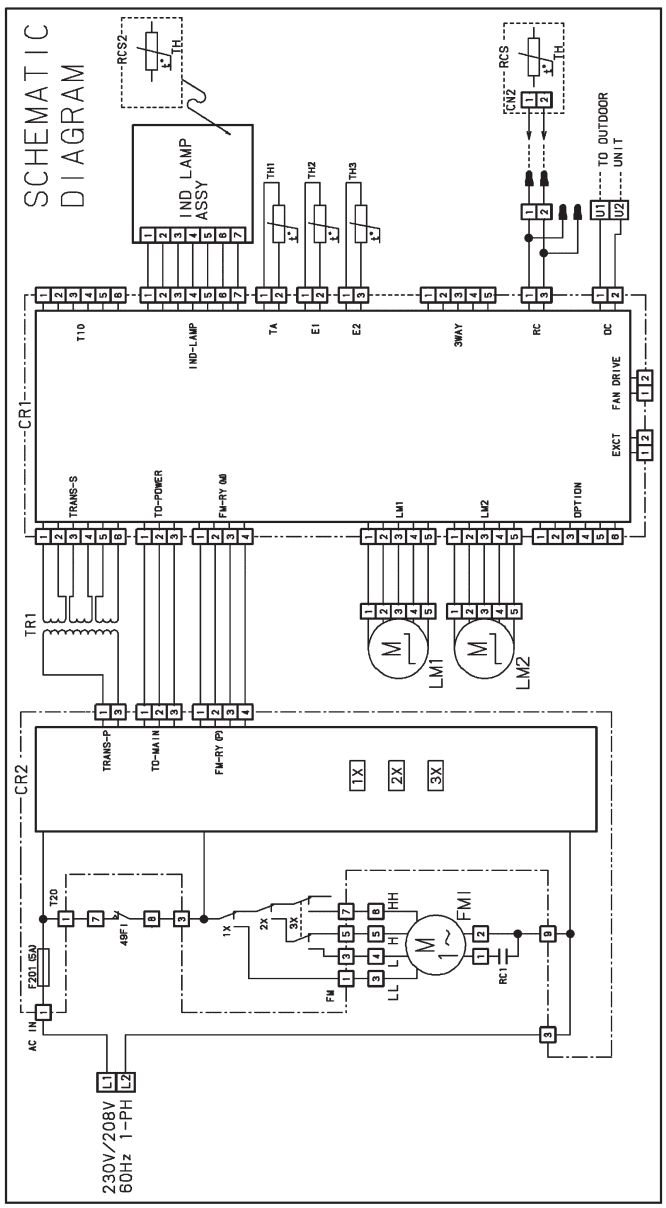
Wall Mounted Type : S-26PK1U6



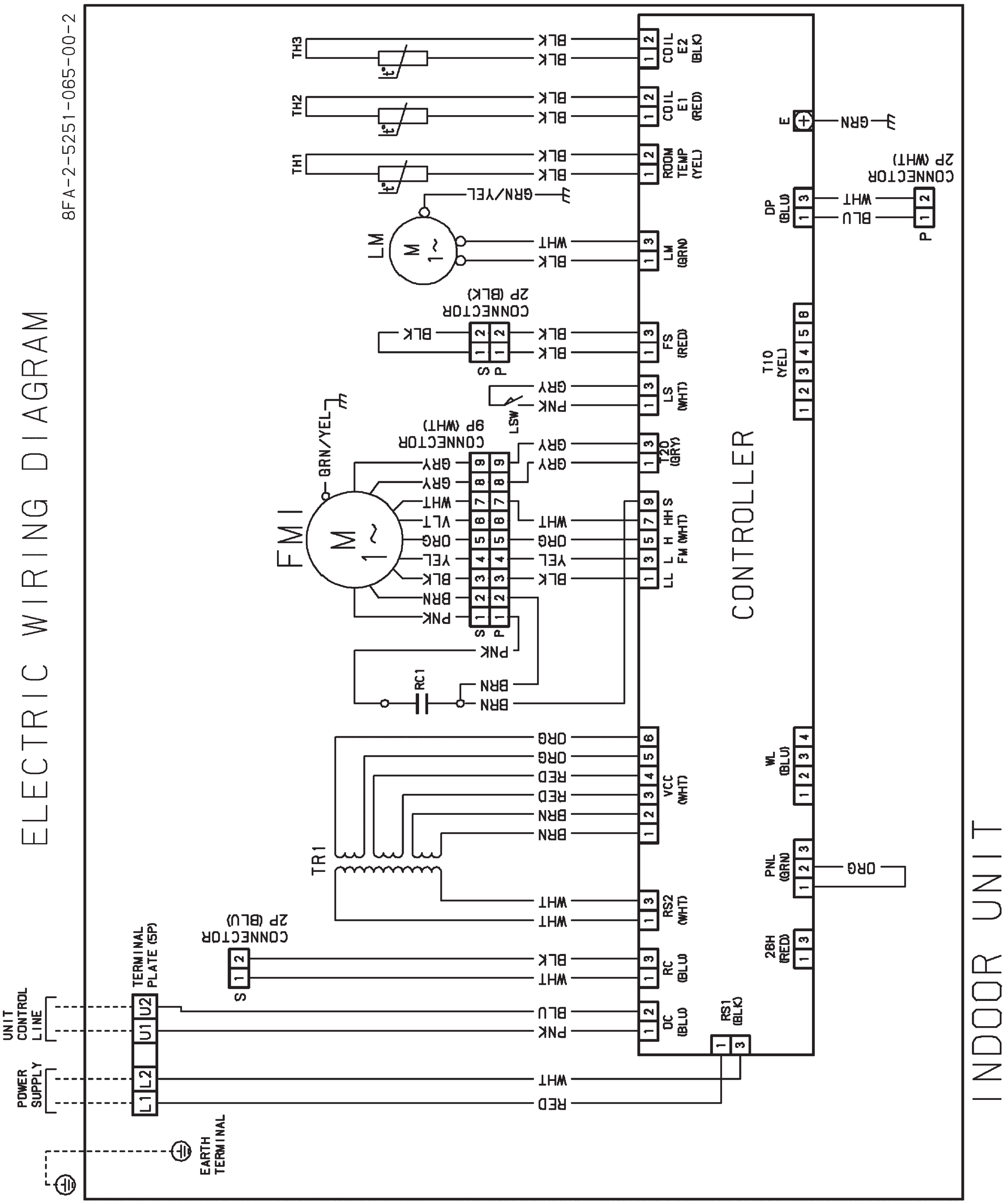
Wall Mounted Type : S-26PK1U6

8FA-2-5251-029-00-0

SYMBOLS	DESCRIPTION
FMI	INDOOR FAN MOTOR
49FI	INDOOR MOTOR THERMAL PROTECTOR
RC1	RUNNING CAPACITOR
TR1	POWER TRANSFORMER
TH1	ROOM THERMISTOR
TH2	THERMISTOR (INDOOR COIL E1)
TH3	THERMISTOR (INDOOR COIL E2)
F201	FUSE
LM1, 2	AUTO LOUVER MOTOR
1X~3X	AUXILIARY RELAY
CR1, CR2	INDOOR CONTROLLER
MOV	MOTOR OPERATED VALVE
□	CONNECTOR, TERMINAL PLATE
⊕	TERMINAL
(RCS)	REMOTE CONTROL SWITCH (OPTIONAL PARTS) TH:ROOM THERMISTOR
(RCS2)	WIRELESS REMOTE CONTROL SWITCH (OPTIONAL PARTS) TH:ROOM THERMISTOR



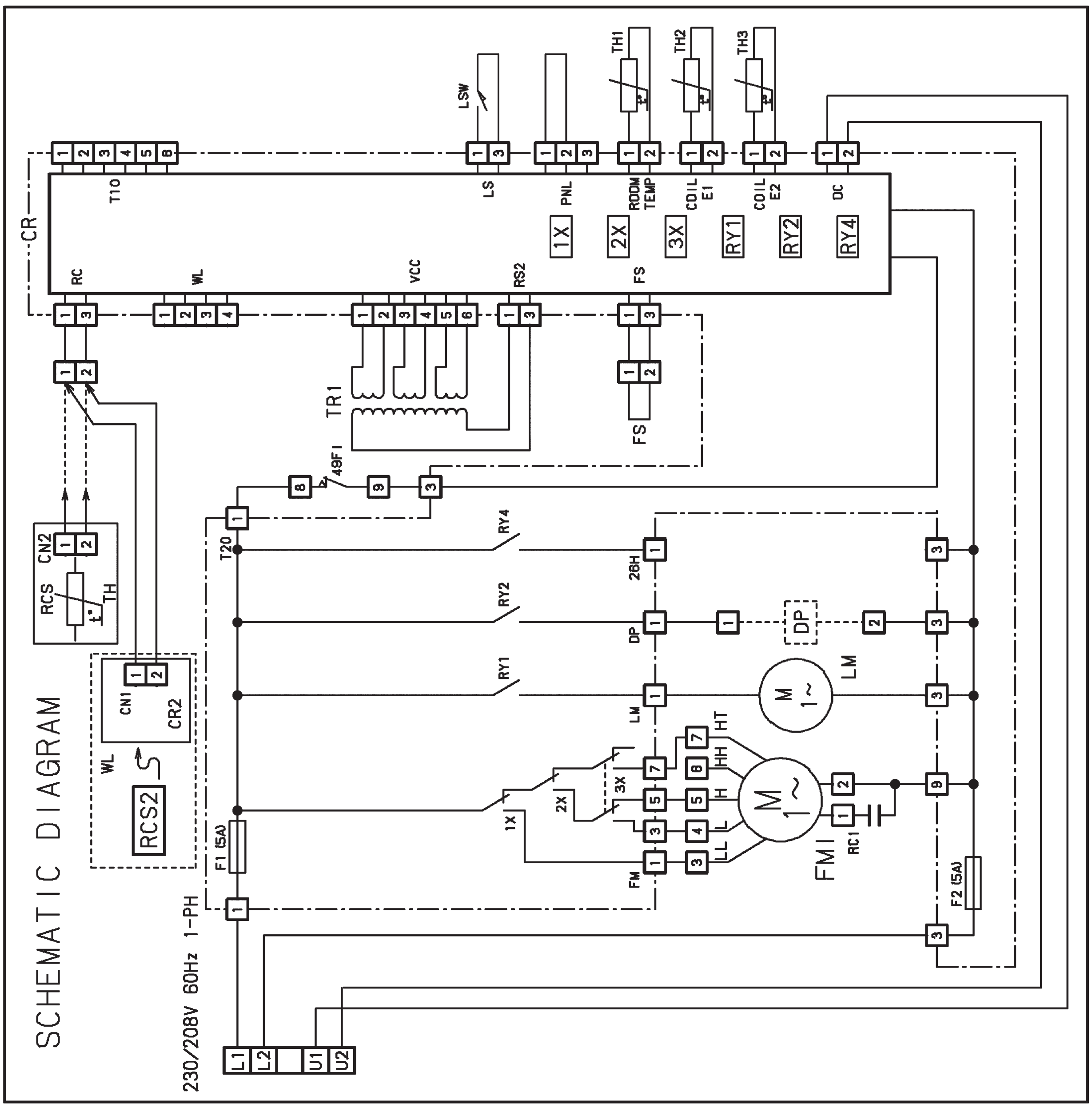
Ceiling Type : S-26PT1U6, S-36PT1U6, S-42PT1U6



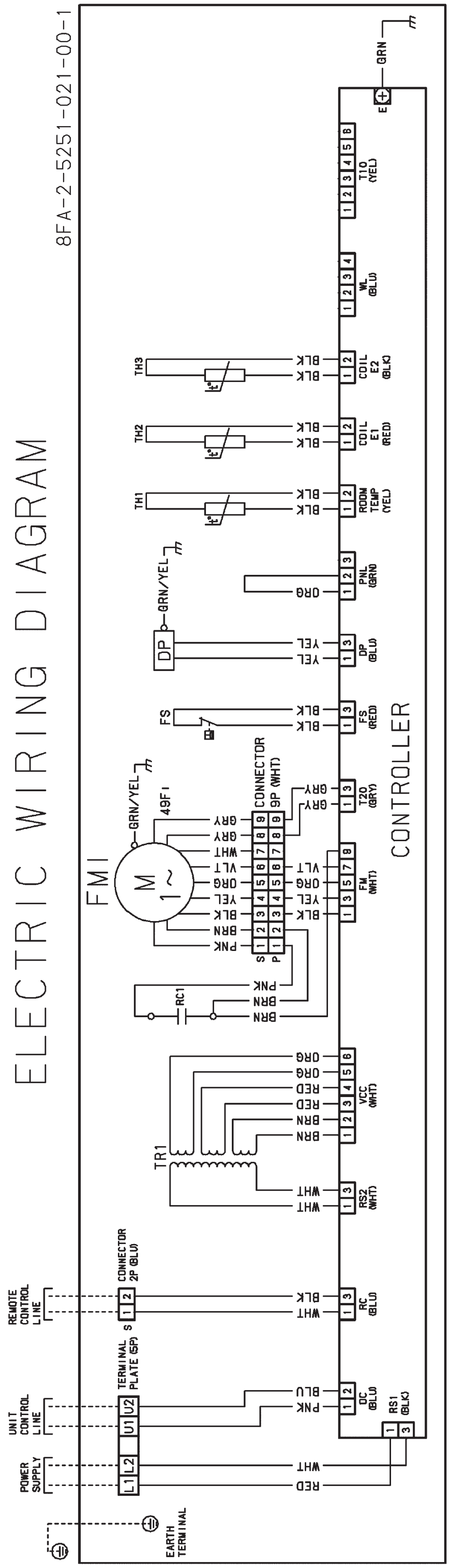
Ceiling Type : S-26PT1U6, S-36PT1U6, S-42PT1U6

8FA-2-5251-065-00-2

SYMBOLS	DESCRIPTION
FM1	INDOOR FAN MOTOR
49F1	INDOOR MOTOR THERMAL PROTECTOR
RC1	RUNNING CAPACITOR
F1, F2	FUSE
LM	AUTO LOUVER MOTOR
TR1	POWER TRANSFORMER
1X-3X	AUXILIARY RELAY
RY1, 2, 4	AUXILIARY RELAY
FS	FLOAT SWITCH
LSW	LIMIT SWITCH
TH1	ROOM THERMISTOR
TH2	THERMISTOR (INDOOR COIL E1)
TH3	THERMISTOR (INDOOR COIL E2)
CR	INDOOR CONTROLLER
RCS	REMOTE CONTROL SWITCH TH: ROOM THERMISTOR
(WL)	WIRELESS REMOTE CONTROLLER (OPTIONAL PARTS) CR2: WIRELESS CONTROLLER RCS2: WIRELESS REMOTE CONTROLLER
□	CONNECTOR, TERMINAL PLATE
⊕	TERMINAL



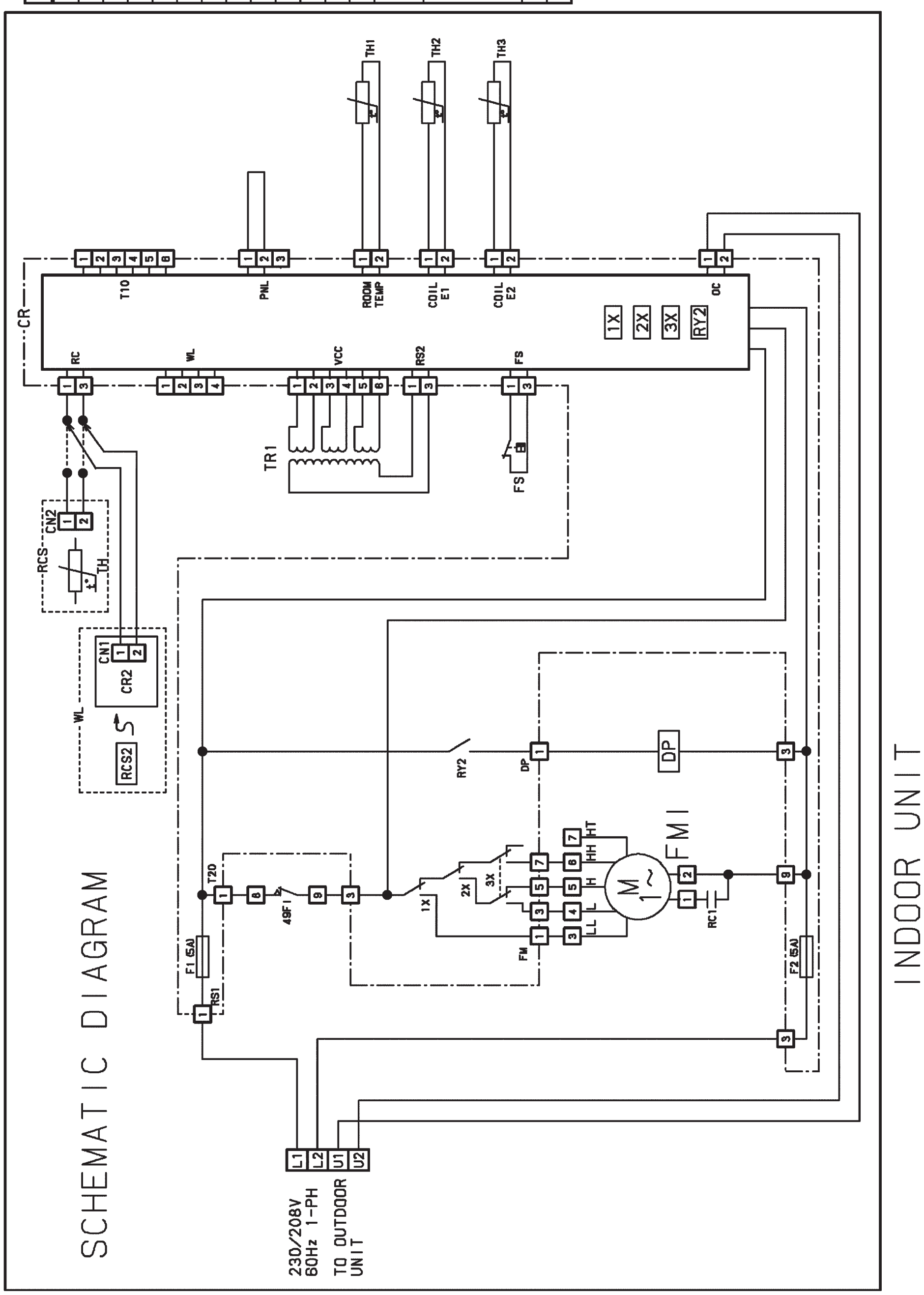
Low Silhouette Ducted Type : S-26PF1U6, S-36PF1U6



Low Silhouette Ducted Type : S-26PF1U6, S-36PF1U6

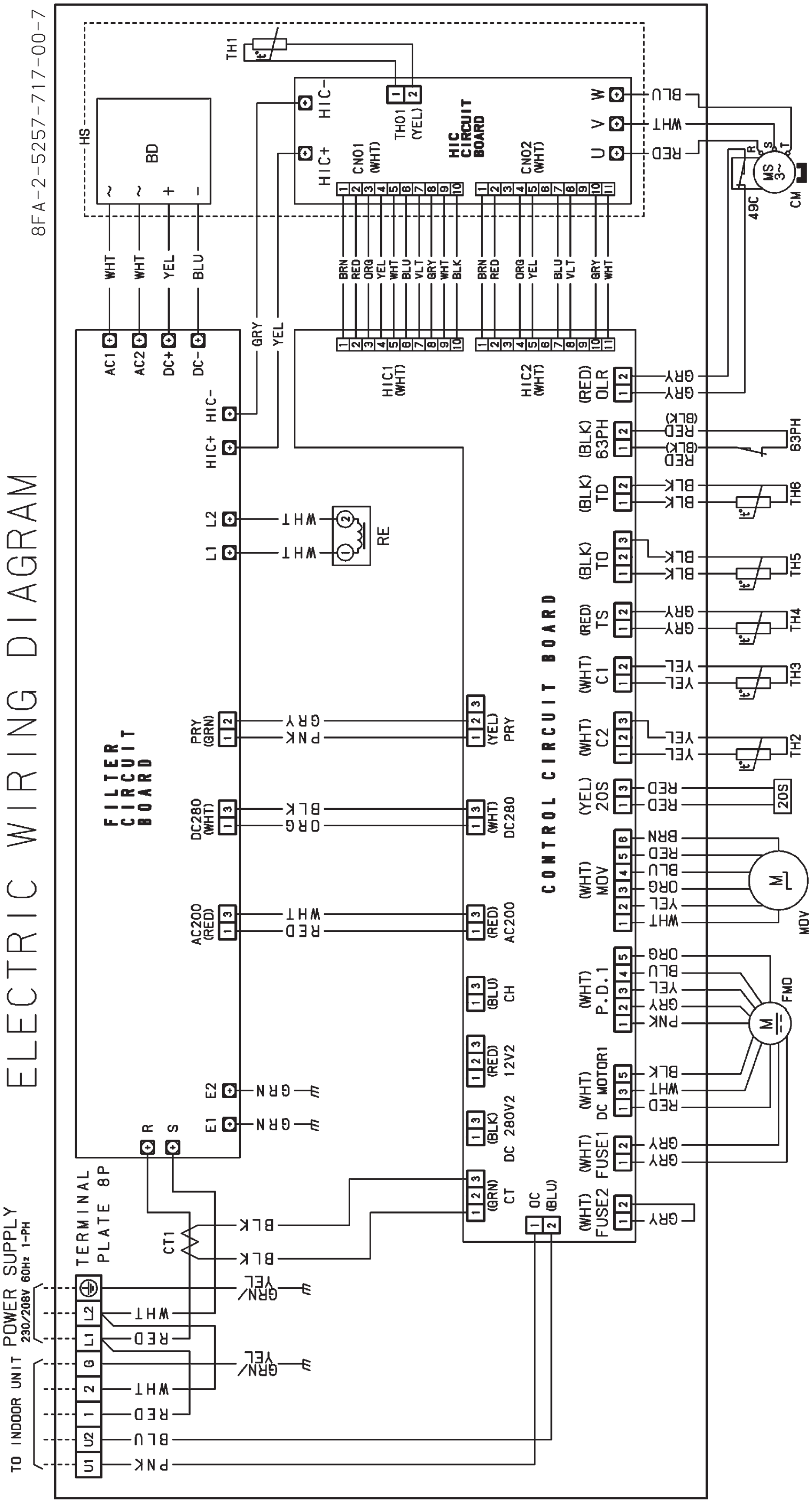
8FA-2-5251-021-00-1

SYMBOLS	DESCRIPTION
FMI	INDOOR FAN MOTOR
49FI	INDOOR MOTOR THERMAL PROTECTOR
RC1	RUNNING CAPACITOR
TR1	POWER TRANSFORMER
DP	DRAIN PUMP
FS	FLOAT SWITCH
TH1	ROOM THERMISTOR
TH2	THERMISTOR (INDOOR COIL E1)
TH3	THERMISTOR (INDOOR COIL E2)
F1, F2	FUSE
1X~3X RY2	AUXILIARY RELAY
CR	INDOOR CONTROLLER
RCS	REMOTE CONTROL SWITCH TH:ROOM THERMISTOR
(WL)	WIRELESS REMOTE CONTROLLER (OPTIONAL PARTS) CR2:WIRELESS CONTROLLER RCS2:WIRELESS REMOTE CONTROLLER
□	CONNECTOR, TERMINAL PLATE
⊕	TERMINAL



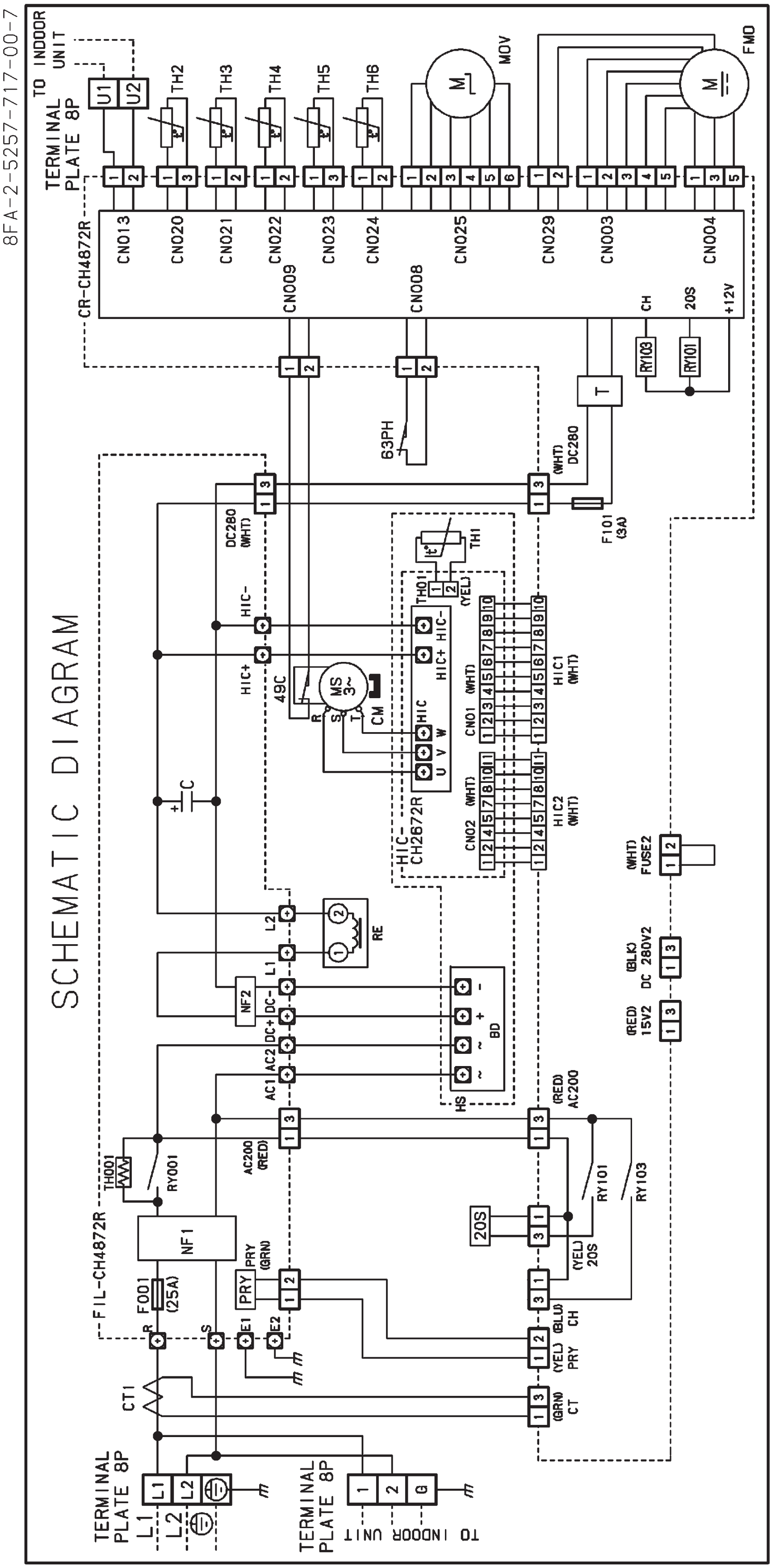
3-2 Outdoor Units

U-26PE1U6



3-2 Outdoor Units

U-26PE1U6



OUTDOOR PC UNIT HEATING & COOLING

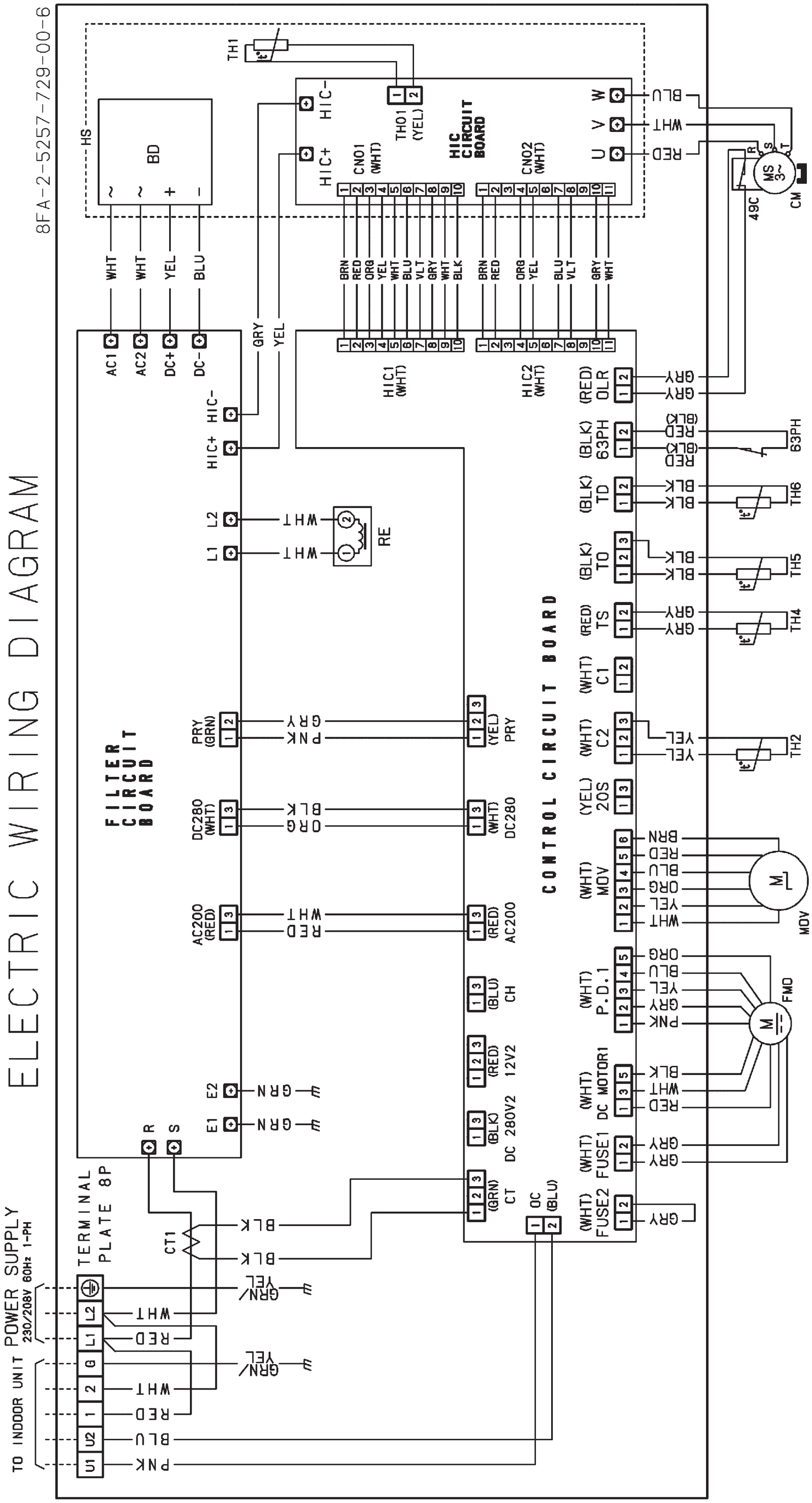
SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
CM	COMPRESSOR MOTOR	MOV	MOTOR OPERATED VALVE	HIC	HYBRID IC	CT1	CURRENT TRANSFORMER	HIC-CH2672R	HIC CIRCUIT BOARD
FMO	OUTDOOR FAN MOTOR	F001, 101	OPERATION CIRCUIT FUSE	BD	BRIDGE DIODE	RY001, 101, 103	RELAY	(symbol)	THERMISTOR
20S	FOUR WAY VALVE	NF1, 2	NOISE FILTER	HS	HEAT SINK (RADIATOR)	CR-CH4872R	CONTROL CIRCUIT BOARD	(symbol)	CONNECTOR, TERMINAL BOARD
63PH	HIGH PRESSURE SWITCH	C	ELECTROLYTIC CAPACITOR	T	TRANSFORMER	FIL-CH4872R	FILTER CIRCUIT BOARD	(symbol)	TERMINAL
49C	COMPRESSOR MOTOR THERMAL PROTECTOR	RE	REACTOR						

WARNING

TURN OFF THE MAIN POWER SUPPLY SWITCH WHEN CHANGING P.C.B.. CONFIRM ALL THE L.E.D.S ON THE P.C.B. ARE OFF AND START TO REWORK. OTHERWISE YOU MAY BE KILLED BY AN ELECTRIC SHOCK.

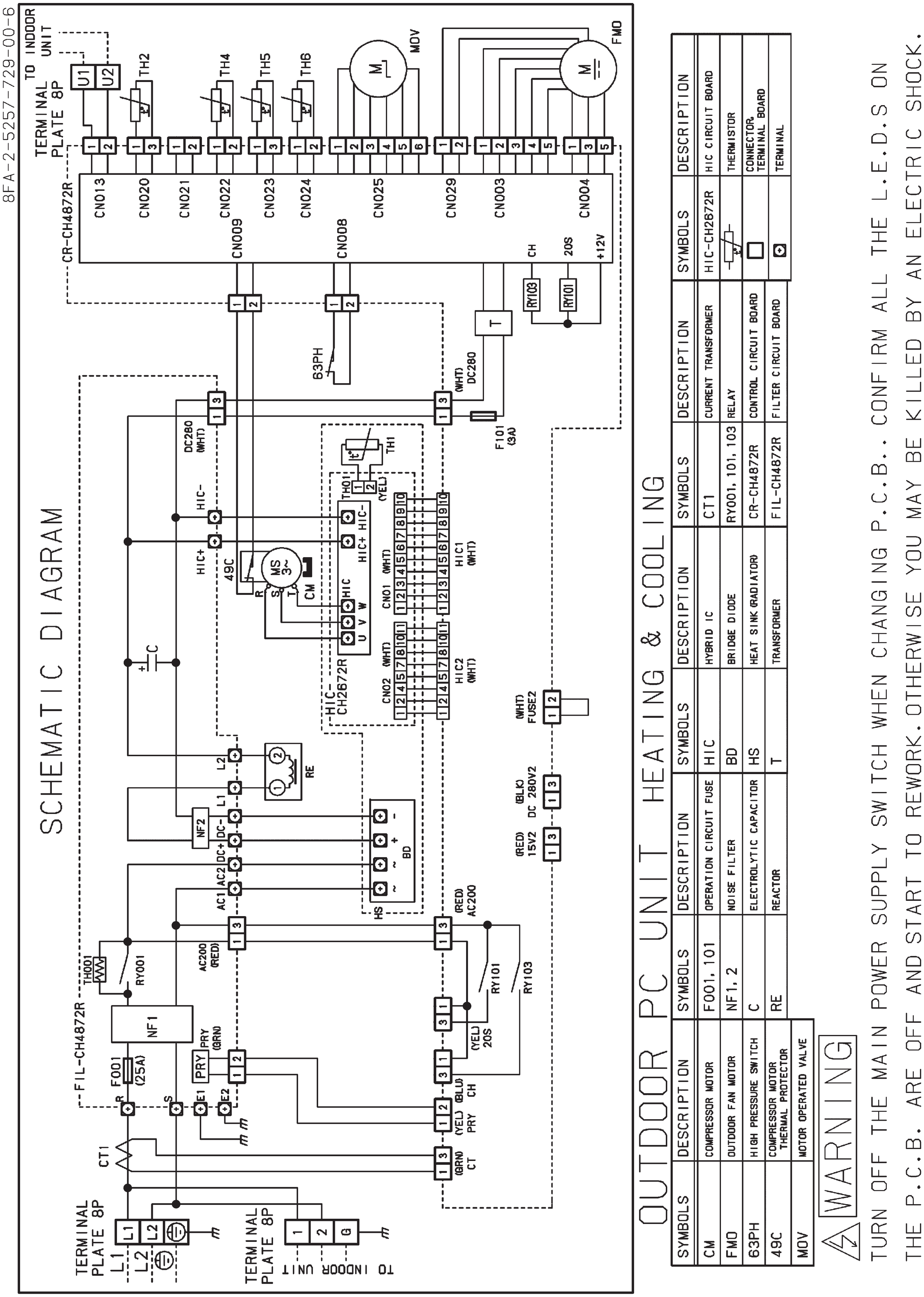
3-2 Outdoor Units

U-26PS1U6



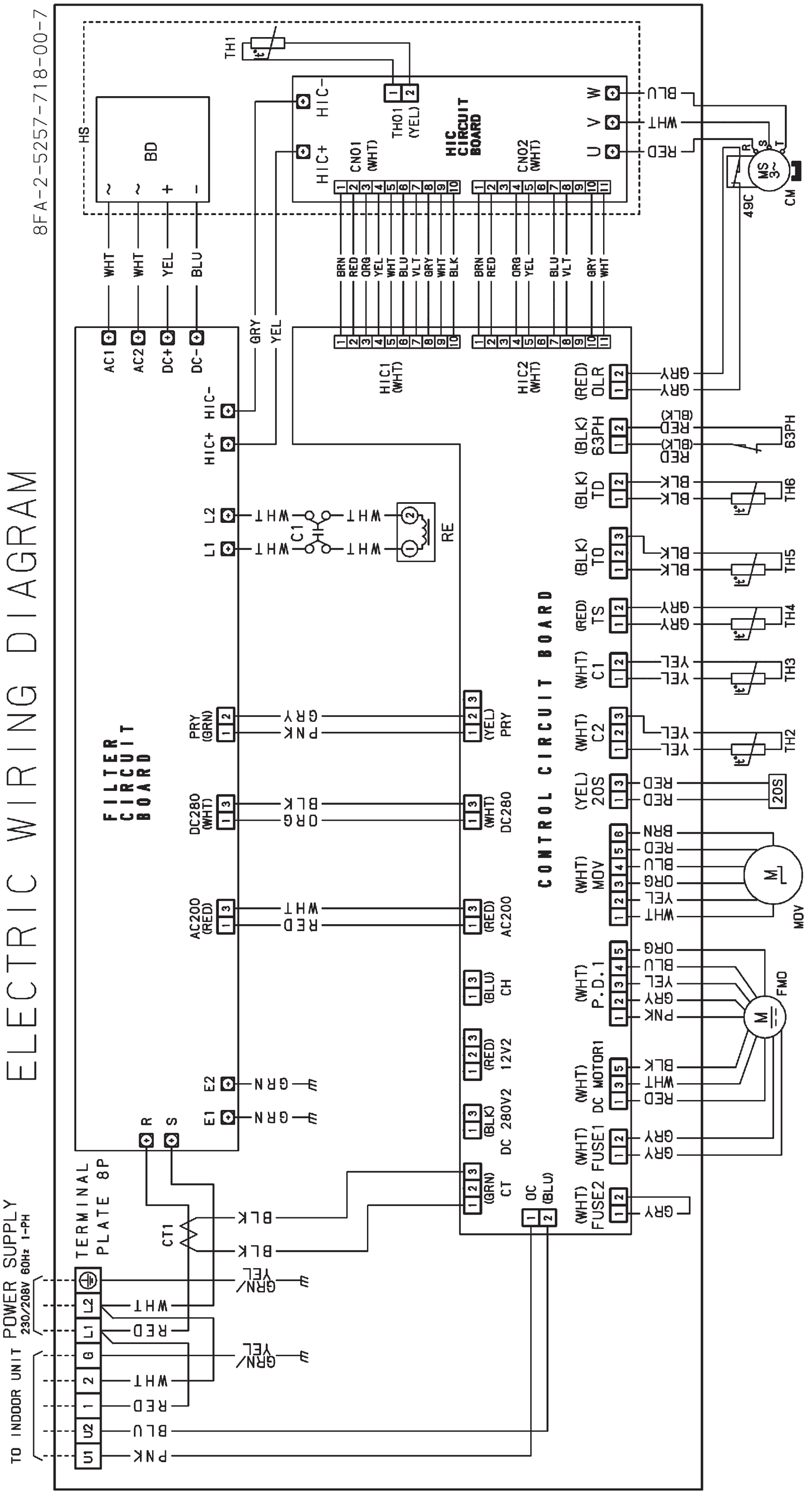
3-2 Outdoor Units

U-26PS1U6



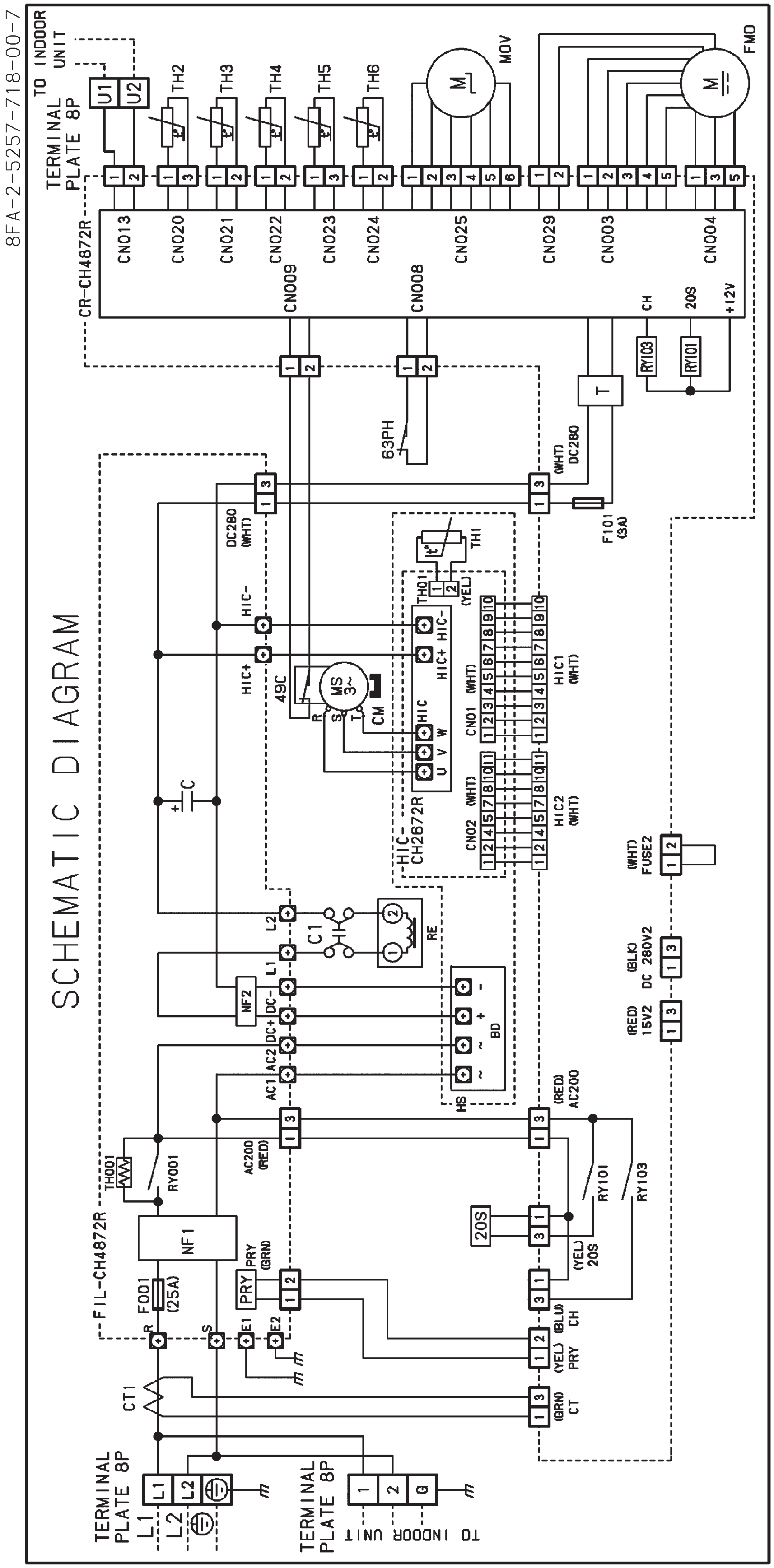
3-2 Outdoor Units

U-36PE1U6



3-2 Outdoor Units

U-36PE1U6



OUTDOOR PC UNIT HEATING & COOLING

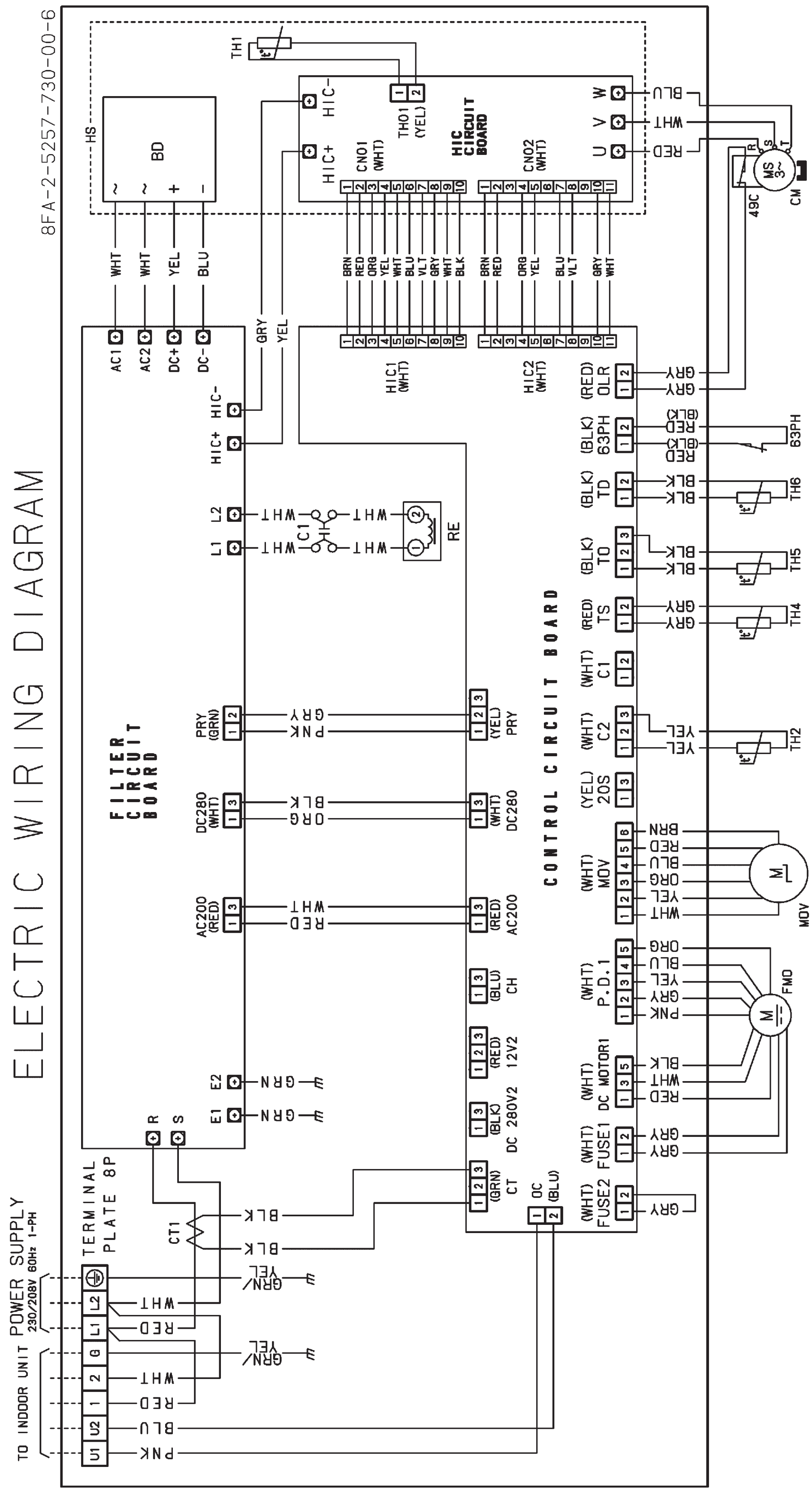
SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
CM	COMPRESSOR MOTOR	MOV	MOTOR OPERATED VALVE	RE	REACTOR	CT1	CURRENT TRANSFORMER	(thermistor symbol)	THERMISTOR
FMO	OUTDOOR FAN MOTOR	F001, 101	OPERATION CIRCUIT FUSE	HIC	HYBRID IC	RY001, 101, 103	RELAY	(square symbol)	CONNECTOR, TERMINAL BOARD
20S	FOUR WAY VALVE	NF1, 2	NOISE FILTER	BD	BRIDGE DIODE	CR-CH4872R	CONTROL CIRCUIT BOARD	(terminal symbol)	TERMINAL
63PH	HIGH PRESSURE SWITCH	C	ELECTROLYTIC CAPACITOR	HS	HEAT SINK (RADIATOR)	FIL-CH4872R	FILTER CIRCUIT BOARD		
49C	COMPRESSOR MOTOR THERMAL PROTECTOR	C1	CAPACITOR	T	TRANSFORMER	HIC-CH2672R	HIC CIRCUIT BOARD		

⚠ WARNING

TURN OFF THE MAIN POWER SUPPLY SWITCH WHEN CHANGING P.C.B.. CONFIRM ALL THE L.E.D.S ON THE P.C.B. ARE OFF AND START TO REWORK. OTHERWISE YOU MAY BE KILLED BY AN ELECTRIC SHOCK.

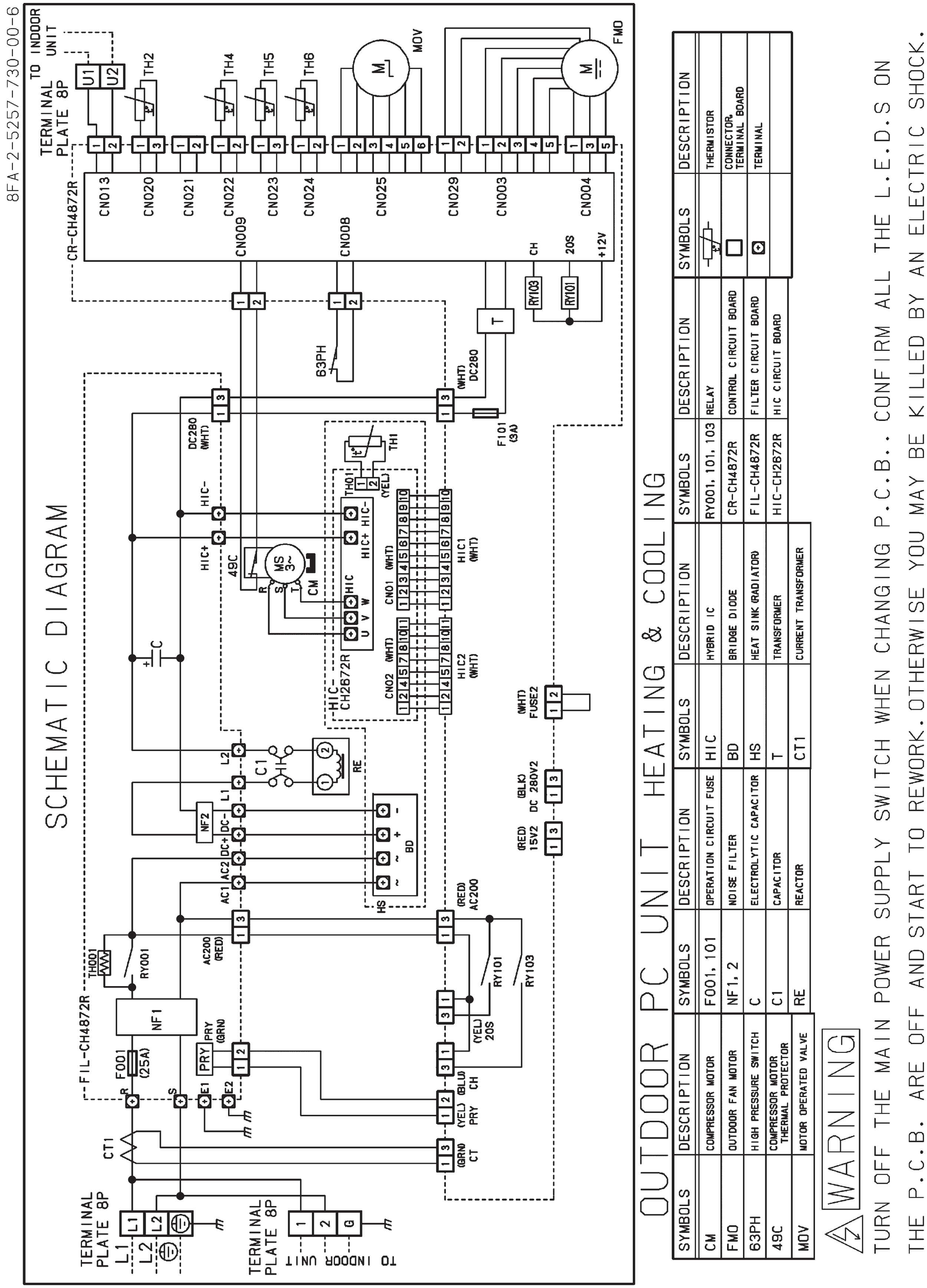
3-2 Outdoor Units

U-36PS1U6



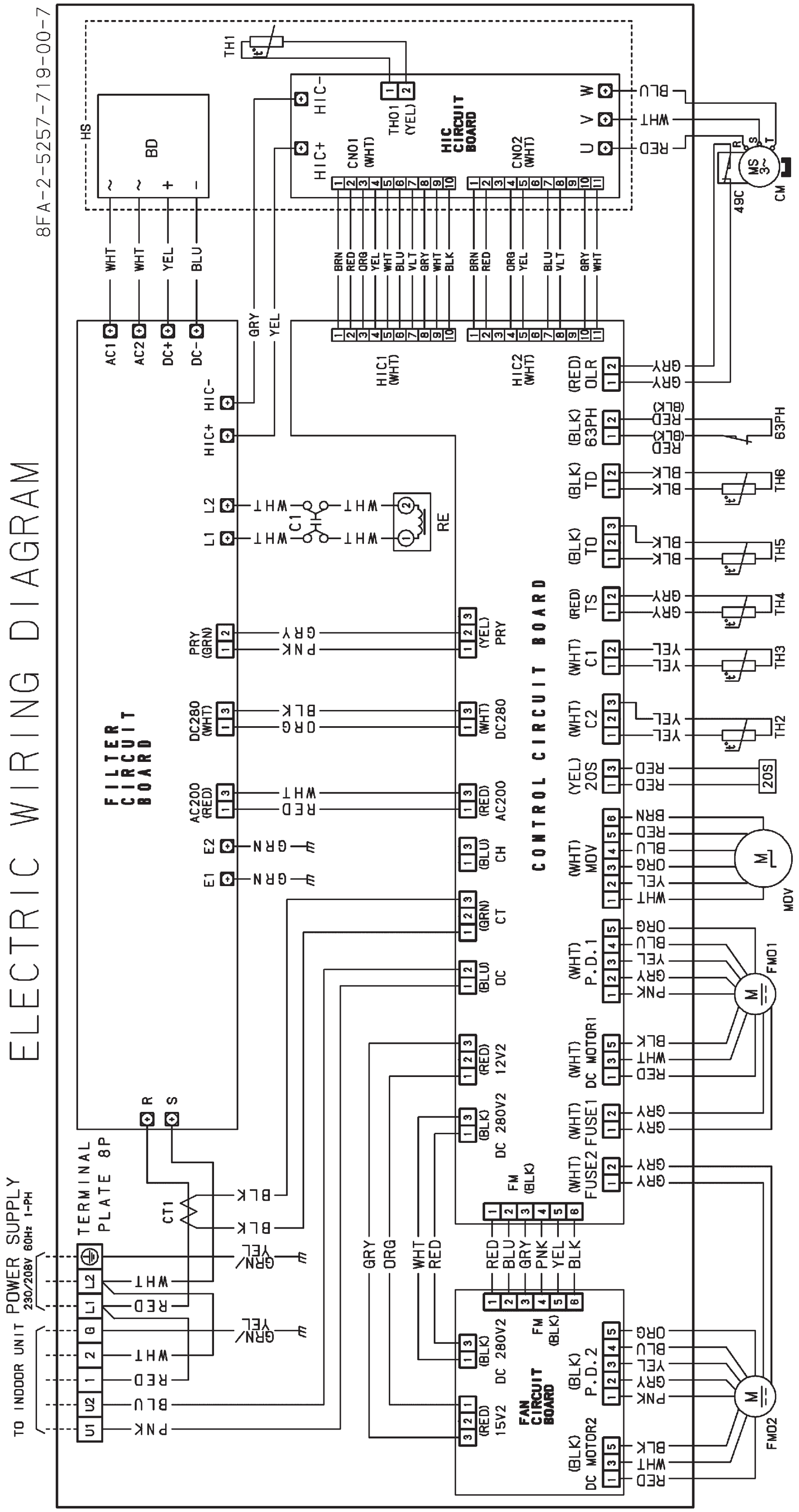
3-2 Outdoor Units

U-36PS1U6



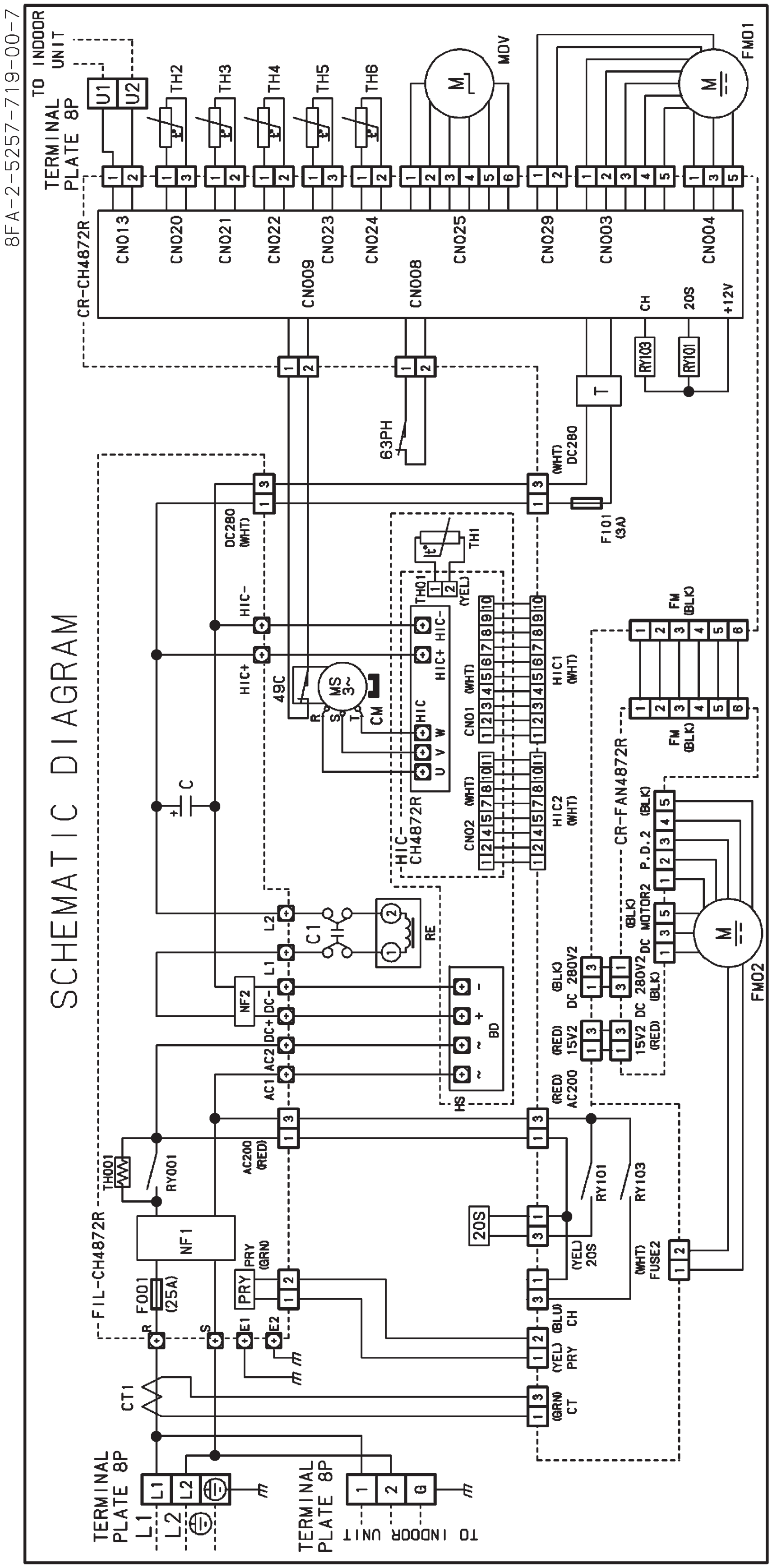
3-2 Outdoor Units

U-42PE1U6



3-2 Outdoor Units

U-42PE1U6



OUTDOOR PC UNIT HEATING & COOLING

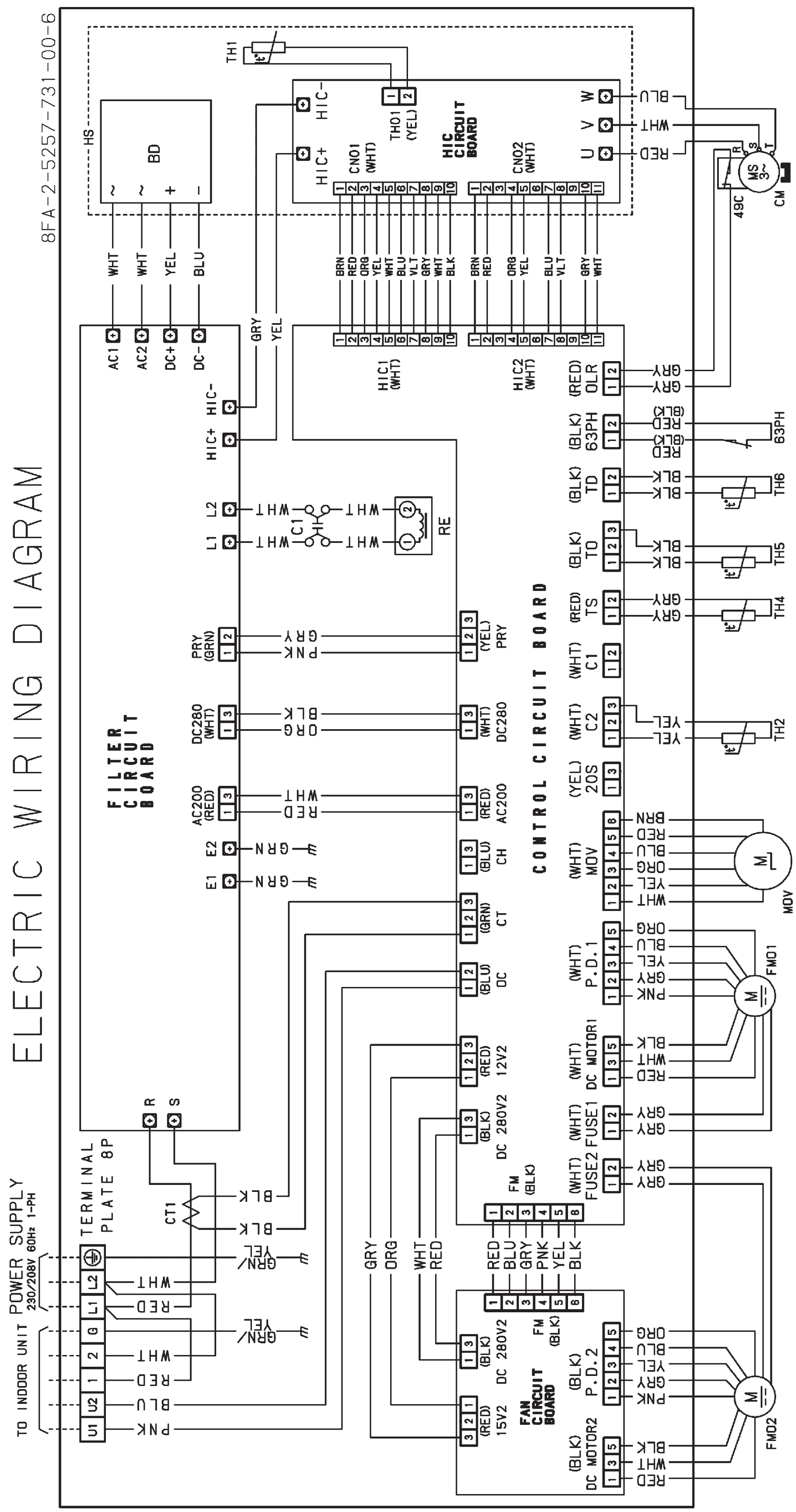
SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
CM	COMPRESSOR MOTOR	MOV	MOTOR OPERATED VALVE	RE	REACTOR	CT1	CURRENT TRANSFORMER	CR-FAN4872R	FAN CIRCUIT BOARD
FM01, 2	OUTDOOR FAN MOTOR	F001, 101	OPERATION CIRCUIT FUSE	HIC	HYBRID IC	RY001, 101, 103	RELAY	(thermistor symbol)	THERMISTOR
20S	FOUR WAY VALVE	NF1, 2	NOISE FILTER	BD	BRIDGE DIODE	CR-CH4872R	CONTROL CIRCUIT BOARD	□	CONNECTOR, TERMINAL BOARD
63PH	HIGH PRESSURE SWITCH	C	ELECTROLYTIC CAPACITOR	HS	HEAT SINK (RADIATOR)	FIL-CH4872R	FILTER CIRCUIT BOARD	(terminal symbol)	TERMINAL
49C	COMPRESSOR MOTOR THERMAL PROTECTOR	C1	CAPACITOR	T	TRANSFORMER	HIC-CH4872R	HIC CIRCUIT BOARD		

⚠ WARNING

TURN OFF THE MAIN POWER SUPPLY SWITCH WHEN CHANGING P.C.B.. CONFIRM ALL THE L.E.D.S ON THE P.C.B. ARE OFF AND START TO REWORK. OTHERWISE YOU MAY BE KILLED BY AN ELECTRIC SHOCK.

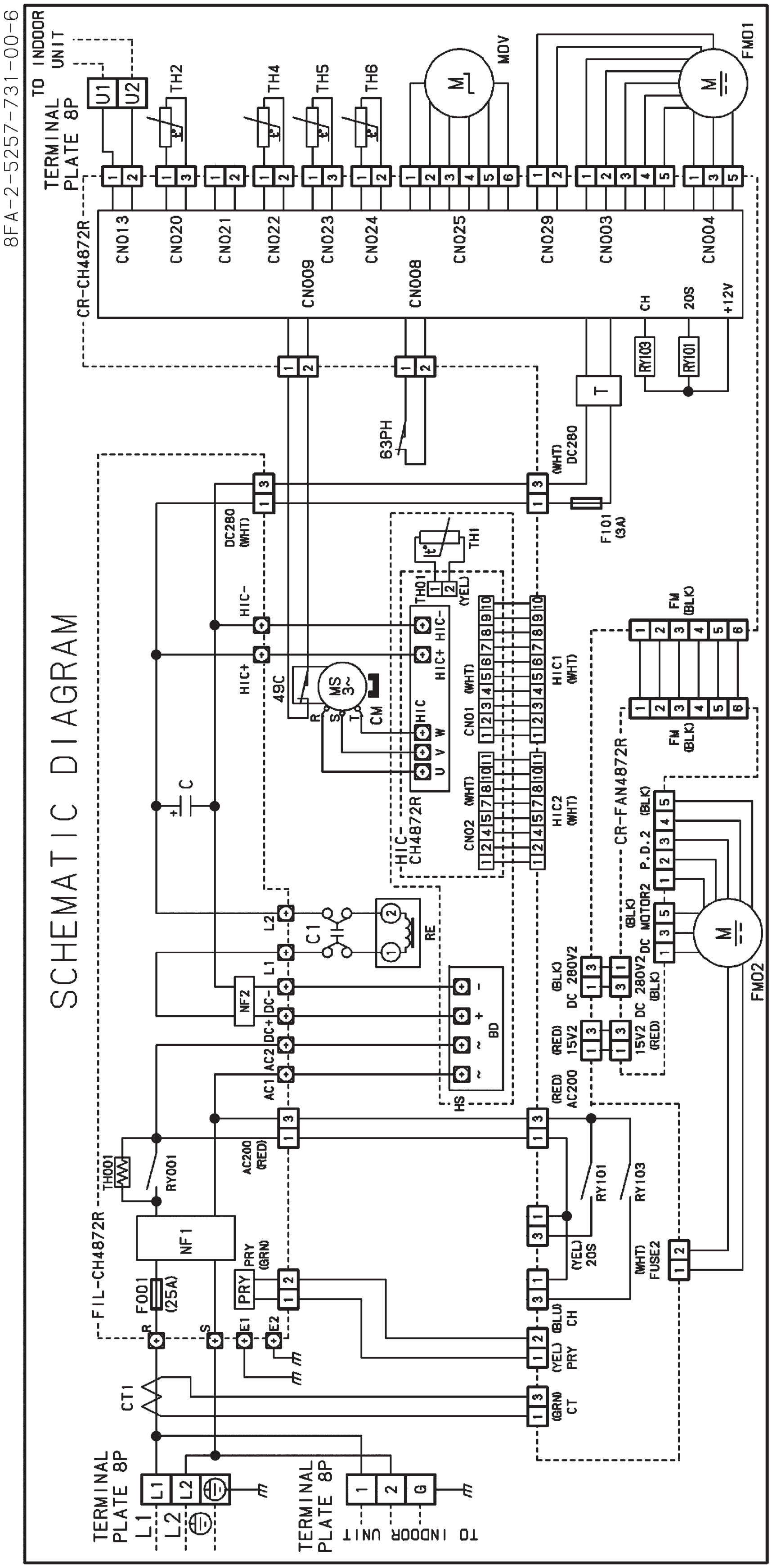
3-2 Outdoor Units

U-42PS1U6



3-2 Outdoor Units

U-42PS1U6



OUTDOOR PC UNIT HEATING & COOLING

SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
CM	COMPRESSOR MOTOR	F001, 101	OPERATION CIRCUIT FUSE	HIC	HYBRID IC	RY001, 101, 103	RELAY	(thermistor symbol)	THERMISTOR
FM01, 2	OUTDOOR FAN MOTOR	NF1, 2	NOISE FILTER	BD	BRIDGE DIODE	CR-CH4872R	CONTROL CIRCUIT BOARD	□	CONNECTOR, TERMINAL BOARD
63PH	HIGH PRESSURE SWITCH	C	ELECTROLYTIC CAPACITOR	HS	HEAT SINK (RADIATOR)	FIL-CH4872R	FILTER CIRCUIT BOARD	⊕	TERMINAL
49C	COMPRESSOR MOTOR THERMAL PROTECTOR	C1	CAPACITOR	T	TRANSFORMER	HIC-CH4872R	HIC CIRCUIT BOARD		
MOV	MOTOR OPERATED VALVE	RE	REACTOR	CT1	CURRENT TRANSFORMER	CR-FAN4872R	FAN CIRCUIT BOARD		

⚠ WARNING

TURN OFF THE MAIN POWER SUPPLY SWITCH WHEN CHANGING P.C.B.. CONFIRM ALL THE L.E.D.S ON THE P.C.B. ARE OFF AND START TO REWORK. OTHERWISE YOU MAY BE KILLED BY AN ELECTRIC SHOCK.

4. SERVICE PROCEDURES

4

4-1. Meaning of Alarm Messages

(1) Contents of remote controller switch alarm display

ON: ○ **Blinking:** ☼ **OFF:** ●

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display		
				Operation	Timer	Standby
Serial communication errors Mis-setting	Remote controller is detecting error signal from indoor unit	Error in receiving serial communication signal (Signal from main indoor unit in case of group control) Outdoor system address, indoor system address, or indoor unit individual/main/sub setting is not set (Automatic address setting is not completed) Auto address is not completed	E01			
		Error in transmitting serial communication signal	E02	☼	●	●
	Indoor unit is detecting error signal from remote controller (and system controller)		E03			
	Improper setting of indoor unit or remote controller	Indoor unit address setting is duplicated	E08			
		Remote controller setting is duplicated	E09			
	Indoor unit is detecting error signaled from signal option	Error in transmitting serial communications signal	E10			
		Error in receiving serial communications signal	E11			
	Automatic address setting failed	Starting auto address setting is prohibited This alarm message shows that the auto address connector CN100 is shorted while other RC line is executing auto address operation.	E12			
		Indoor unit capacity too low	E15			
		Indoor unit capacity too high	E16			
		No indoor units connected	E20	●	●	☼
	Setting error	Main unit duplication in simultaneous-operation multi control (detected by outdoor unit)	E14			
	Indoor unit is detecting error signaled from outdoor unit	Error in receiving serial communications signal	E04			
		Error in transmitting serial communications signal	E05			
	Outdoor unit is detecting error signaled from indoor unit	Error in receiving serial communications signal (including unit quantity verification failure)	E06			
		Error in transmitting serial communications signal	E07			
	An indoor unit detected trouble in the signal from another indoor unit	Error in transmitting serial communications signal	E17	☼	●	●
		Error in receiving serial communications signal	E18			
	Communications trouble between units	Communications failure with MDC	E31	●	●	☼
Mis-setting	Setting error	Indoor unit group settings error	L01			
		Indoor/outdoor unit type mismatch	L02	☼	● (Simultaneously)	☼
		Main unit duplication in group control (detected by indoor unit)	L03			
		Outdoor unit address duplication (system address)	L04	☼	○ (Simultaneously)	☼
		Group wiring connected for independent indoor unit	L07			
		Address not set or group not set	L08	☼	● (Simultaneously)	☼
		Indoor unit capacity not set	L09			
		Outdoor unit capacity not set or setting error	L10	☼	○ (Simultaneously)	☼
		Miswiring in group control wiring	L11			
		Indoor unit type setting error (capacity)	L13			

Continued

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display: Operation	Timer	Standby
Ceiling panel connection failure			P09			
Activation of protective device	Indoor protection	Fan protective thermostat	P01	●	☼	☼ (Operation/Timer/Standby: Alternately)
		Float switch	P10			
	Outdoor protection	Discharge temperature trouble	P03			
		High pressure switch or compressor motor thermal protector is activated.	P04			
		Open phase detected, AC power trouble	P05			
		No gas	P15			
		4-way valve locked	P19	☼	●	☼ (Operation/Timer/Standby: Alternately)
		High cooling load	P20			
		Outdoor fan trouble	P22			
		Inverter compressor trouble (HIC PCB)	P26			
		Inverter compressor trouble (MDC)	P29			
		Simultaneous-operation multi control trouble	P31			
		Compressor current failure (overload)	H01	●	☼	●
Thermistor fault	Thermistor open circuit • Short circuit (indoor)	Indoor heat exchanger temperature sensor (E1)	F01			
		Indoor heat exchanger temperature sensor (E2)	F02	☼	☼ (Operation/Timer: Alter.)	●
		Indoor temperature sensor	F10			
	Thermistor open circuit • Short circuit (outdoor)	Discharge temperature (TD)	F04			
		Outdoor heat exchanger temperature (C1)	F06			
		Outdoor heat exchanger temperature (C2)	F07	☼	☼ (Operation/Timer: Alter.)	○
		Outdoor air temperature (TO)	F08			
		Intake temperature (TS)	F12			
		Indoor EEPROM error	F29	☼	☼ (Operation/Timer: Simul.)	●
		Outdoor EEPROM error	F31	☼	☼ (Operation/Timer: Simul.)	○

4

(2) LED Indicator Messages on Outdoor Control PCB

	LED 1	LED 2	Remarks
Power ON sequence			
1. No communication from indoor units in system	○	○	If it is not possible to advance to 3, repeats 1 → 2. At 3, changes to normal control.
2. Communication received from 1 or more indoor units in system	●	●	
3. Regular communication OK (Capacity and unit quantity match)	●	●	
Normal operation	○	☼	Displayed during automatic address setting 1 and initial communication. After these are completed, alarm F31 is displayed.
EEPROM error (F31)			
Pre-trip (insufficient gas)	☼ (0.25/0.75)	●	**P03**
Pre-trip (P20)	☼ (0.75/0.25)	●	
Pre-trip (other)	☼	●	
Alarm	**Alternate blinking during alarms** LED 1 blinks M times, then LED 2 blinks N times. The cycle then repeats. M = 2: P alarm 3: H alarm 4: E alarm 5: F alarm 6: L alarm N = Alarm No. * Refer to “1. Examples of alarm display” below.		
Insufficient gas indicator	☼	●	
Refrigerant recovery mode	☼	●	
Automatic address setting			
Automatic address setting in progress	☼	☼	Blinking alternately
Automatic address setting alarm (E15)	☼ (0.25/0.75)	☼ (0.25/0.75)	Blinking simultaneously
Automatic address setting alarm (E20)	☼ (0.75/0.25)	☼ (0.75/0.25)	Blinking simultaneously
Automatic address setting alarm (Other than E15 and E20)	☼	☼	Blinking simultaneously

○ : **ON**

☼ : **Blinking (0.25/0.75)** indicates that the lamp illuminates for 0.25 seconds, and then is OFF for 0.75 seconds.
Unless otherwise indicated, the blinking is (0.5/0.5).

● : **OFF**

(3) Examples of alarm display (other than E15, E16, and E20)

Alarm / Display	**LED 1** ← **Alternately**	→ **LED 2**
P03	☼ (Blinks 2 times)	☼ (Blinks 3 times)
P04	☼ (")	☼ (Blinks 4 times)
P05	☼ (")	☼ (Blinks 5 times)
P31	☼ (")	☼ (Blinks 31 times)
H01	☼ (Blinks 3 times)	☼ (Blinks 1 times)
•	•	
E04	☼ (Blinks 4 times)	☼ (Blinks 4 times)
•	•	
F07	☼ (Blinks 5 times)	☼ (Blinks 7 times)
•	•	
L13	☼ (Blinks 6 times)	☼ (Blinks 13 times)
•	•	

Note:
This table shows example alarms. Other alarms may also be displayed.

4

4-2. Symptoms and Parts to Inspect

Remote controller alarm display	Alarm contents	Judgment condition	Clear condition	Judgment and correction
P03	Abnormal discharge temperature • Discharge temp. detected at or above the specified value.	Stops when temp. exceeds 232 ˚F.	Recovery at restart	1. Check refrigerant cycle (gas leak). 2. Electronic control valve trouble 3. Check tubing sensor (TD).
P04	High pressure switch is activated. Compressor motor thermal protector is activated.	Stops when pressure exceeds 600 psi. Stops when temp. exceeds 230 ˚F.	Recovery at restart	1. Check the high pressure switch connector is securely connected. 2. Check the ourdoor unit heat exchanger is not clogged (cooling operation). 3. Check the indoor unit air filter has not become clogged (heating operation)
P05	Missing phase detected. (CT disconnected or AC power trouble)	Current value sent from MDC on outdoor unit control PCB is low. No AC power input for 3 minutes or longer: pre-trip - 5	Recovery at restart	1. Check R/S/T power. 2. Check inverter control PCB. 3. Check outdoor unit control PCB.
P15	Insufficient gas level detected.	The following conditions continue for 1 minute. • Discharge temp. is 203 ˚F or higher. • Electronic control valve is at step 480. • Current value from MDC is 2.0 A or less.	Recovery at restart	Check refrigerant cycle (gas leak).
P19	4-way valve locked • Judgment occurs after compressor has been ON for 5 minutes.	Indoor heat exchanger temp. drops although compressors are ON in heating mode: [min(E1, E2)] ≤ 50 ˚F. Indoor heat exchanger temp. rises although compressors are ON in cooling mode: E2 ≥ 104 ˚F.	Recovery at restart	1. Check 4-way valve. 2. Check 4-way valve wiring. 3. Check outdoor unit control PCB.
P20	High-pressure protection trouble	If MAX (C1,C2) is 142°F or higher, the compressor stops one. The compressor restarts three time, and if the temperature does not decrease to less than 142°F, the alert "P20" is displayed.	Recovery at restart	1. Refrigerant cycle overload operation 2. Outdoor coil temperature sensor C1 or C2
P22	Outdoor unit fan motor trouble • Inverter protection circuit was activated, or lock was detected, at outdoor unit fan motor.	Inverter stops after alarm is detected	Recovery at restart	1. Position detection trouble 2. Overcurrent protection circuit at outdoor unit fan motor was activated. • Check outdoor unit control PCB. • Refer to outdoor unit fan judgment methods.
P26	Inverter protection circuit was activated, or G-Tr short-circuit (short time: 0.8 s or less) in inverter control	Inverter stops after alarm is detected. Alarm is output when inverter stops (pre-trip) consecutively 4 times.	Recovery at restart	1. Stops immediately when restarted. • Layer short in the compressor 2. Check inverter control PCB. • Wiring trouble

4

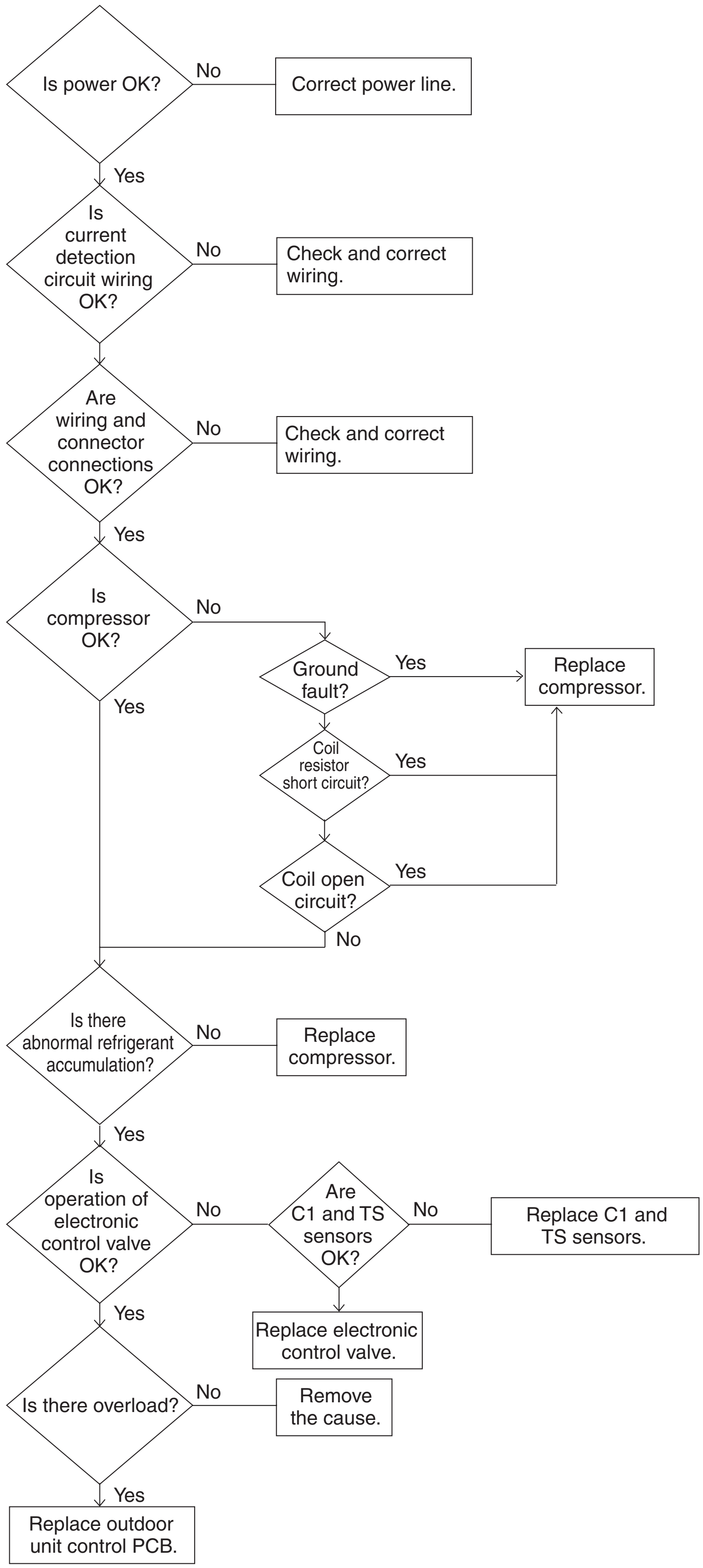
Remote controller alarm display	Alarm contents	Judgment condition	Clear condition	Judgment and correction
P29	Current detection circuit trouble • AC current value is high even when compressor is stopped.	Inverter stops after alarm is detected. Alarm is output when inverter stops (pre-trip) consecutively 4 times.	Recovery at restart	1. Stops immediately when restarted. • Layer short in the compressor 2. Check inverter control PCB. • Wiring trouble
	Compressor motor output trouble, Inverter compressor trouble, MDC trouble	Inverter stops after alarm is detected.	Recovery at restart	1. Refrigerant cycle trouble, overload operation 2. Loose screws and contact failure between HIC control PCB and radiating plate 3. Cooling failure of radiating plate 4. Check outdoor unit PCB wiring.
	Compressor does not run. (Overcurrent protection circuit activates after a certain period of time following compressor start.)	Inverter stops after alarm is detected.	Recovery at restart	1. Compressor trouble (locked, etc.) • Replace the compressor. 2. Compressor wiring trouble (missing phase)
	Compressor breakdown • Starts to operate but operating frequency drops and compressor stops.	Inverter stops after alarm is detected.	Recovery at restart	1. Check power voltage: AC 203 V ± 20 V or 230 V ± 23 V. 2. Refrigerant cycle overload operation 3. Check AC current detection circuit.
	Inverter control PCB position detection circuit trouble	Inverter stops after alarm is detected.	Recovery at restart	Position detection circuit is activated even when the compressor 3P connector is disconnected and the compressor operated. • Replace the inverter control PCB.
F04	Disconnection, open circuit, or short circuit in discharge temp. sensor (TD)	26, 36 MODEL: Sensor detection trouble (194°F or higher when 15 minutes have elapsed after compressor stopped). (Open circuit) 42 MODEL: Sensor defection trouble (194°F or higher when 60 minutes have elapsed after compressor stopped). (Open circuit)	Automatic recovery	1. Check discharge temp. sensor (TD). 2. Check outdoor unit control PCB.
F06	Disconnection, open circuit, or short circuit in outdoor heat exchanger temp. sensor (C1)	Open circuit or short circuit	Automatic recovery	1. Check outdoor heat exchanger temp. sensor (C1). 2. Check outdoor unit control PCB.
F07	Disconnection, open circuit, or short circuit in outdoor heat exchanger temp. sensor (C2)	Open circuit or short circuit	Automatic recovery	1. Check outdoor heat exchanger temp. sensor (C2). 2. Check outdoor unit control PCB.
F08	Disconnection, open circuit, or short circuit in outdoor air temp. sensor (TO)	Open circuit or short circuit	Automatic recovery	1. Check outdoor air temp. sensor (TO). 2. Check outdoor unit control PCB.
F12	Disconnection, open circuit, or short circuit in intake temp. sensor (TS)	Open circuit or short circuit	Automatic recovery	1. Check intake temp. sensor (TS). 2. Check outdoor unit control PCB.

Remote controller alarm display	Alarm contents	Judgment condition	Clear condition	Judgment and correction
F31	EEPROM trouble	Reading/writing failure	Recovery at power reset	1. Check EEPROM (IC007). 2. Check outdoor unit control PCB.
L02	Mismatch of indoor and outdoor unit types (Espacio, Multi)	Indoor unit judges that type does not match outdoor unit type.	Recovery at power reset	1. Check indoor unit EEPROM. 2. Check indoor unit control PCB.
L04	Settings failure	Duplicated outdoor unit address (system address)	Automatic recovery	1. Check outdoor unit system address. 2. Check inter-unit control wiring.
L07	Settings failure	Group control wiring is connected to an independent-control indoor	Recovery at power reset	1. Check inter-unit control wiring. 2. Check indoor unit EEPROM.
L10	Settings failure	Outdoor unit capacity not set.	Recovery at power reset	Check outdoor unit EEPROM.
L13	Indoor-outdoor unit types	Outdoor unit judges that type does not match indoor unit type.	Recovery at power reset	1. Check indoor unit EEPROM. 2. Check outdoor unit control PCB.
E06	Outdoor unit detected abnormal signal from indoor unit.	Serial signal receiving failure (including failure to verify No. of units)	Automatic recovery	1. Check inter-unit control wiring. 2. Check outdoor unit
E07	Outdoor unit sending failure to indoor unit	Serial signal sending failure	Automatic recovery	1. Check inter-unit control wiring. 2. Check outdoor unit control PCB.
E14	Settings failure	Duplicated master unit in simultaneous-operation multi control (Detected by outdoor unit)	Recovery at power reset	1. Check inter-unit control wiring. 2. Check indoor unit combination.
E15	Automatic address setting failure	Indoor unit capacity too low.	Recovery at power reset	1. Check inter-unit control wiring. 2. Check outdoor unit control PCB.
E16	Automatic address setting failure	Indoor unit capacity too high.	Recovery at power reset	1. Check inter-unit control wiring. 2. Check outdoor unit control PCB.
E20	Automatic address setting failure	Outdoor unit cannot receive any serial signals from indoor units.	Recovery at power reset	1. Check inter-unit control wiring. 2. Check outdoor unit control PCB.
E31	Communications trouble within unit	No communication possible with MDC for 3 minutes or longer.	Automatic recovery	Check outdoor unit control PCB.
H01	Overcurrent	Inverter stops after alarm is detected.	Recovery at restart	1. Refrigerant cycle trouble, overload operation 2. Loose screws between HIC control PCB and radiating plate 3. Cooling failure of radiating plate 4. Check outdoor unit PCB wiring.

4

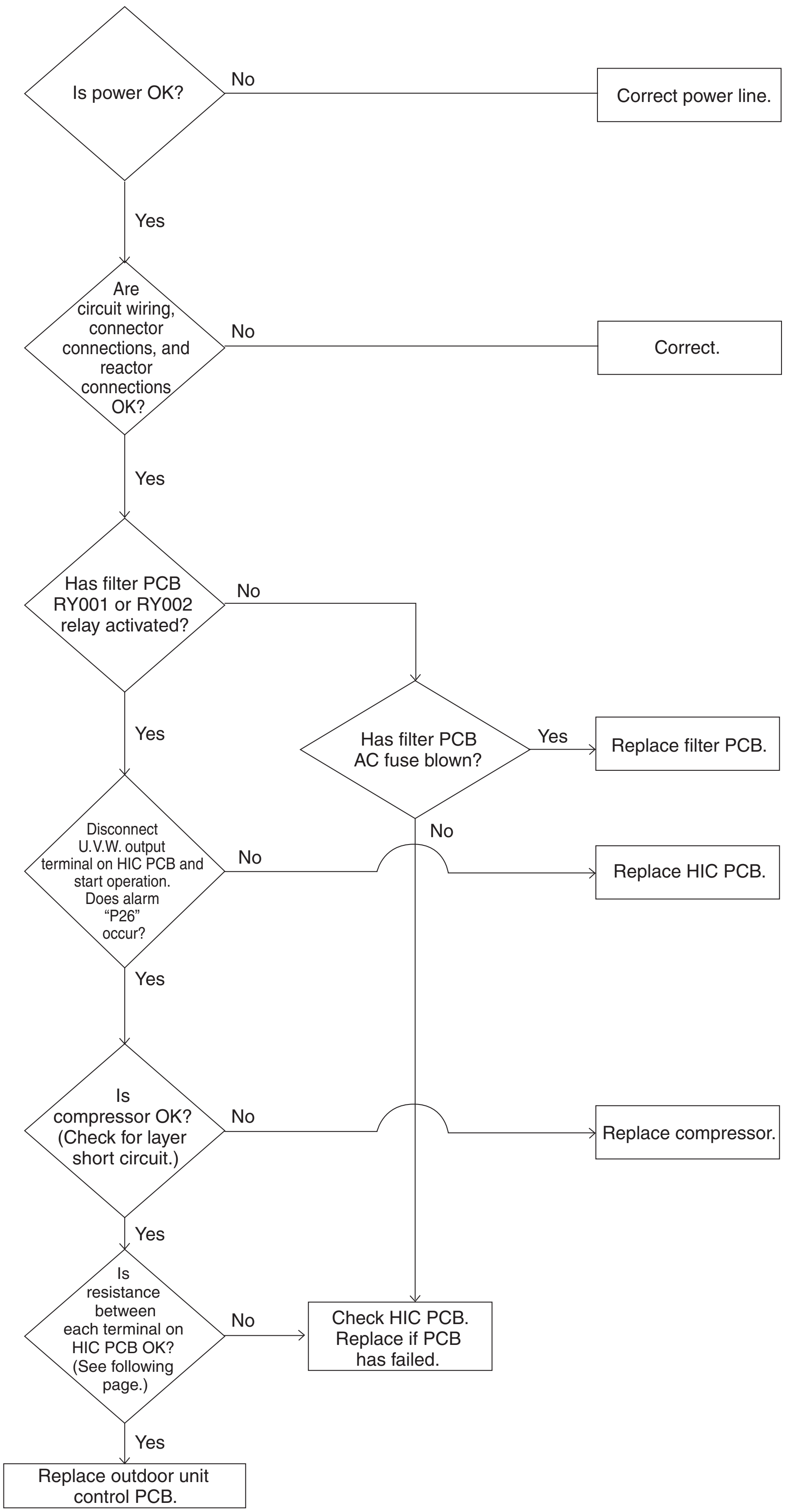
4-3. Details of Alarm Messages

(1) [Alarm “P29”] (MDC trouble)
- Input power detection circuit trouble
- Compressor does not run.
- Breakdown
- Motor current detection circuit trouble



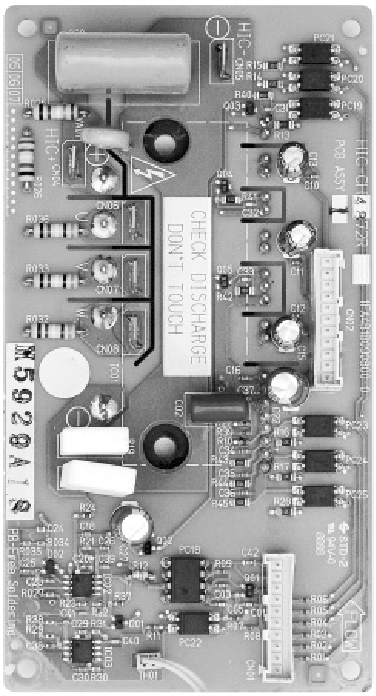
4

(2) [Alarm “P26”] HIC PCB trouble) ——— IGBT short-circuit protection on inverter control (IPDU) PCB

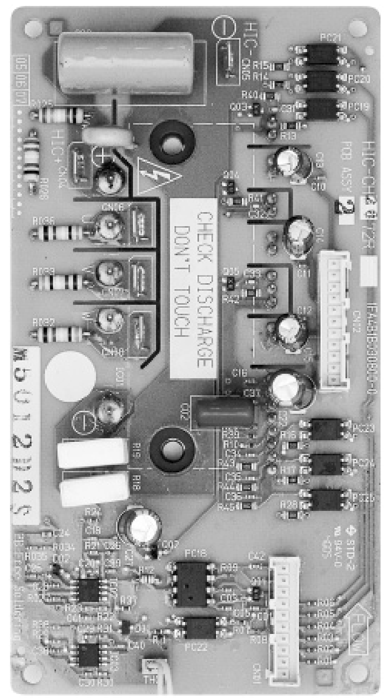


4

HIC-CH4872R
(42 Type)



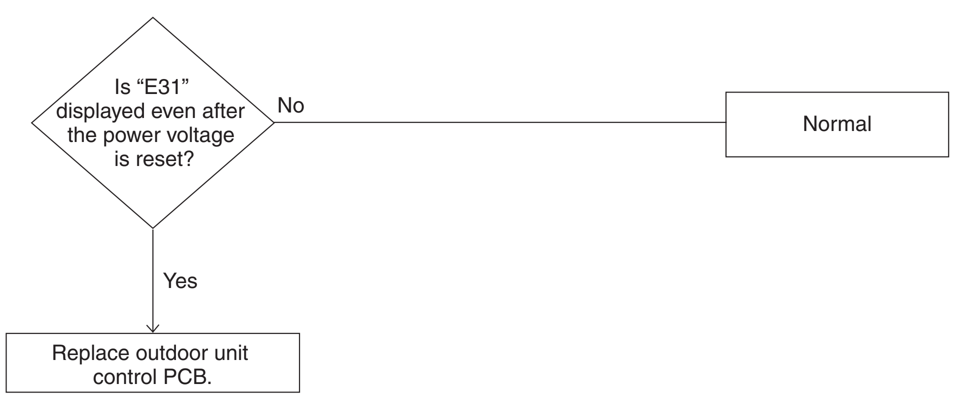
HIC-CH2672R
(26, 36 Type)



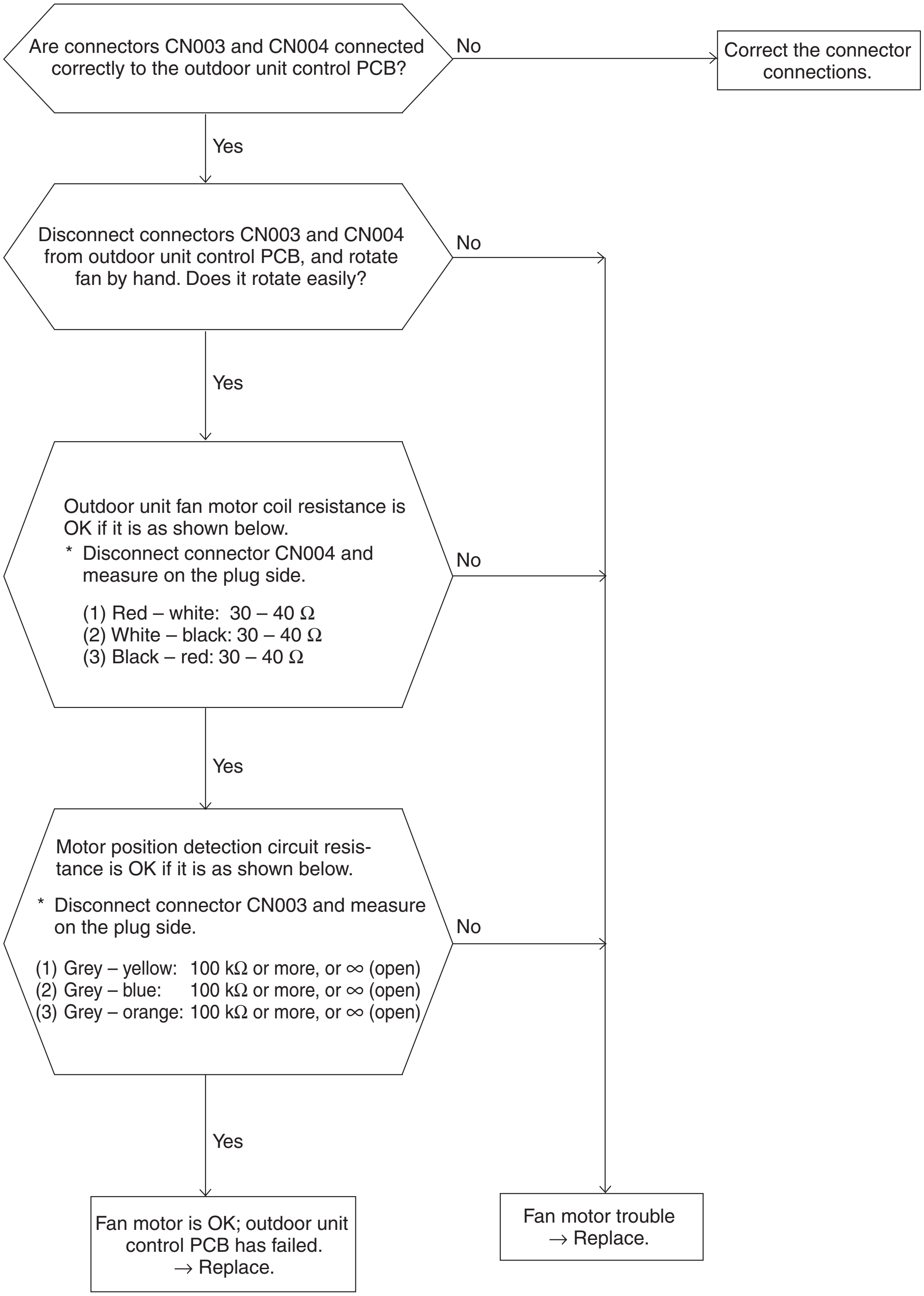
Resistance

Between terminals		Resistance
HIC + ——	HIC –	200 kΩ or more
HIC + ——	U	300 kΩ or more
HIC + ——	V	300 kΩ or more
HIC + ——	W	300 kΩ or more
HIC – ——	U	200 kΩ or more
HIC – ——	V	200 kΩ or more
HIC – ——	W	200 kΩ or more

(3) [Alarm "E31"] (communications trouble within unit) —— IGBT short-circuit protection

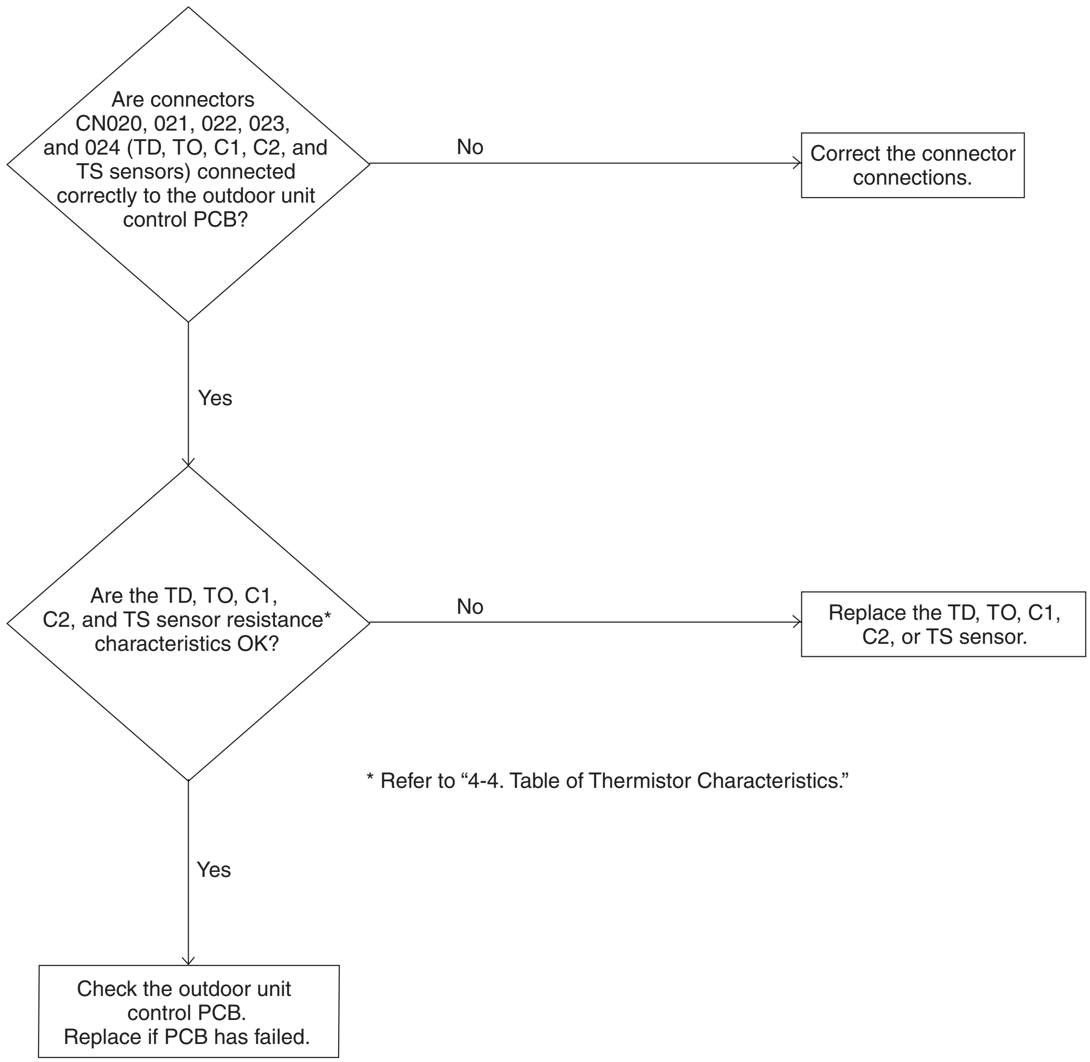


(4) [Alarm "P22"] ———— Outdoor unit fan motor drive circuit trouble



Note:
In the case of a GND circuit failure inside the motor, the results of the above check may be OK.
If operation is not OK after the outdoor unit control PCB has been replaced, then replace the outdoor unit fan motor.

(5) [Alarms “F04,” “F06,” “F07,” “F08,” “F12”] — Sensor trouble



* Refer to “4-4. Table of Thermistor Characteristics.”

Sensor Temperature Display Function (Displayed both when operating and stopped)

- The below check procedure can be used to display all remote controller, indoor unit, and outdoor unit sensor temperatures.

<Check procedure>

(1) Press and hold the button and button simultaneously for 4 seconds or longer.

(2) Unit No. X-X (main unit No.), item code XX (sensor address), and service monitor 00XX (sensor temperature) appear on the remote controller LCD. (See figure.)

(3) Press the temperature setting and buttons and change the item code to the sensor address of the sensor that you want to monitor.
(For the relationship between the sensor address and the sensor type, refer to the below Sensor Temperature Correlation Table.)

(4) During group control and simultaneous operation multi control, press the button and change to the unit that you want to monitor.

(5) Press the button to return to normal remote controller operation.

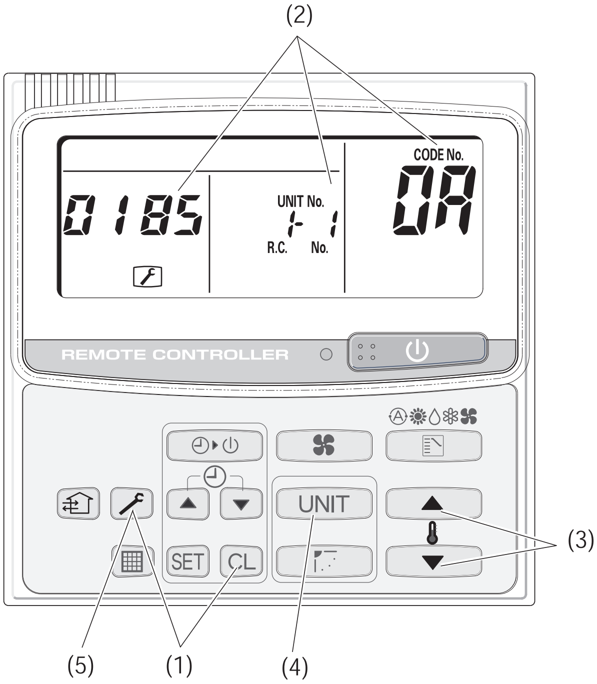


Figure: Sample display when discharge temperature at unit No. 1-1 is 185˚F

NOTE
The temperature display reads "- - - - " for units that are not connected.

- If monitor mode is selected during normal operation, the only parts of the LCD that change are those shown in the figure.
  All other displays do not change, and remain as they were during normal operation.

Sensor Temperature Correlation Table

Sensor installation location	Sensor address	Sensor type	Sensor address	Sensor type
Indoor unit	00	Room temp. (temp. used for control)*	05	–
	01	Remote controller temp.	06	Discharge temp.
	02	Indoor intake temp.	07	–
	03	Indoor heat exchanger temp. (E1)	08	–
	04	Indoor heat exchanger temp. (E2)	09	–
Outdoor unit	0A	Discharge temp. (TD)	12	–
	0b	–	13	–
	0C	–	14	Current (AC current)
	0d	Intake temp. (TS)	15	Outdoor electronic control valve position
	0E	Outdoor heat exchanger temp. (C1)	16	–
	0F	Outdoor heat exchanger temp. (C2)	17	–
	10	–	18	–
	11	Outdoor air temp.	19	–

* Main unit only when group control is enabled

4

Check Pin

Short-circuit the cooling check pin (or heating check pin) on the outdoor unit control PCB to perform the control described below.

1. Thermistor checks
   The checks listed below are performed for 1 second each, in order from the top down. The results are displayed by LED 1 and 2.

Thermistor	Check results	
	Normal	Abnormal
Discharge temp. (TD)	LED 1 lit	
Outdoor air temp. (TO)	LED 2 lit	
Heat exchanger temp. (C1)	LED 1 lit	LED 1 and 2 OFF
Heat exchanger temp. (C2)		
Intake temp. (TS)	LED 1 lit	

↓

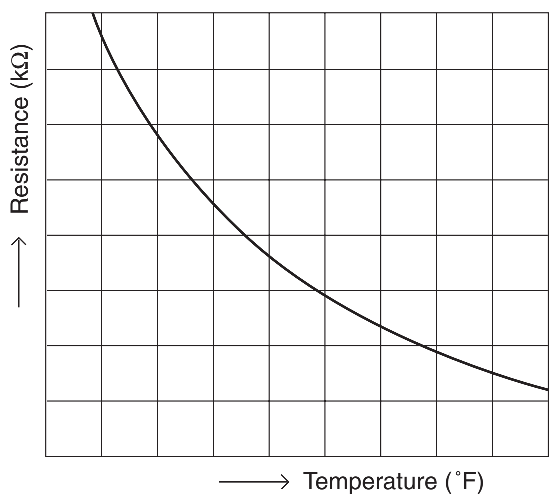
2. 4-way valve turns ON for 1 second.

↓

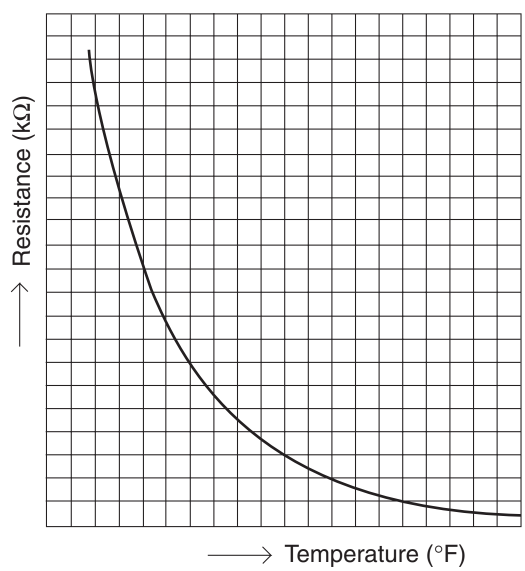
3. Forced cooling (or heating) operation

4-4. Table of Thermistor Characteristics

(1) Outdoor Air Temp. (TO), Intake Temp. (TS), Heat Exchanger Temp. (C1) Sensor, Heat Exchanger Temp. (C2) Sensor



(2) Discharge Temp. (TD) Sensors



5. OUTDOOR UNIT MAINTENANCE REMOTE CONTROL

5

5-1. Overview

What is the outdoor unit maintenance remote controller?

Beginning with the DC-INV series of outdoor units, nonvolatile memory (EEPROM) is used in the outdoor unit PCB. In this way, the setting switches that were located on earlier PCBs have been converted to EEPROM data. This remote controller is an outdoor unit maintenance tool that is used to make and change the EEPROM settings.

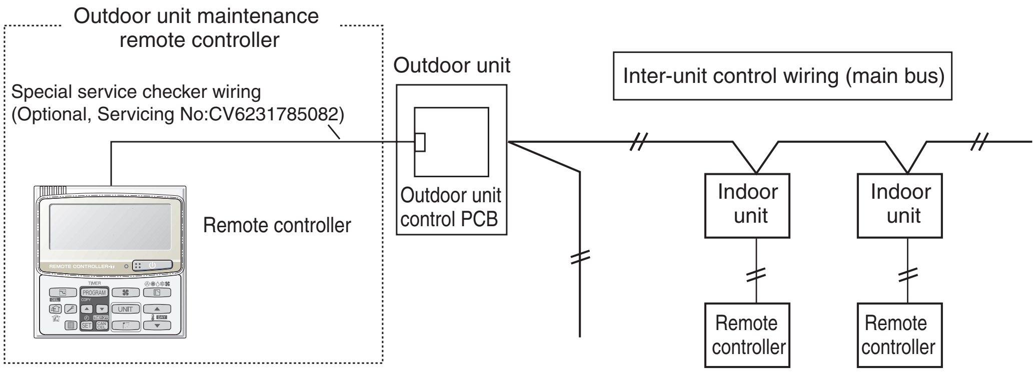
This remote controller can be used for checking the outdoor unit EEPROM settings and contents, and also can be used to monitor the outdoor unit alarm history and indoor/outdoor unit temperatures, and to check the status of the indoor unit connections (No. of units, operating status, etc.).

Note: Because this tool does not function as a remote controller, it is used only during test runs and servicing.



CZ-RTC2

System diagram



* The special service checker wiring is required in order to connect the outdoor unit maintenance remote controller to the outdoor unit PCB.

* Even when the outdoor unit maintenance remote controller is connected, a separate remote controller or other control device must be connected to the indoor unit.

5-2. Functions

■ **Normal display functions**

(1) Functions: Button operations can be used to perform the following functions.

- Start/stop of all indoor units
- Switching between cooling and heating
- Test run of all indoor units
- High-speed operation of indoor units (Do not use with actual units. This may damage the devices.)

(2) Display: The following can be displayed.

- Alarm details display
- No. of indoor/outdoor units
- Unit Nos. of connected indoor/outdoor units
- Indoor/outdoor unit operating status (blinks when an alarm occurs)
- Indoor unit thermostat ON
- Individual display of outdoor unit alarms
- Outdoor unit compressor total operating time
- Outdoor unit oil sensor oil level
- Outdoor unit total power ON time
- Outdoor unit microcomputer version
- Other

■ **Temperature monitor**

- Displays the indoor/outdoor unit sensor temperatures.

■ **Outdoor unit alarm history monitor**

- Displays the outdoor unit alarm history.

■ **Setting modes**

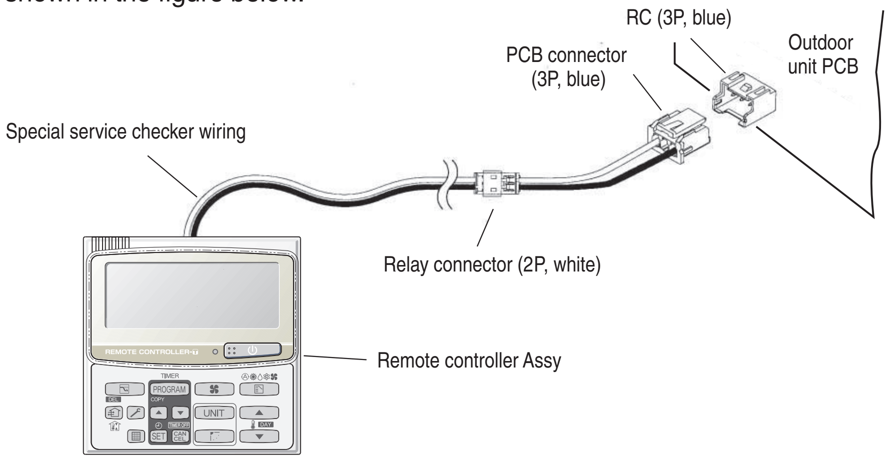
- Setting mode 1 and setting mode 2 are used to make the outdoor EEPROM setting.

5

5-3. Normal Display Operations and Functions

■ Normal display functions

- Connect the special service checker wiring to the outdoor unit PCB.
  The connection is shown in the figure below.



* It is not necessary to disconnect the communications line in the inter-unit control wiring if it has already been connected at this time.

* Setting modes 1 and 2 can be used even when the outdoor unit is independent (when 1 maintenance remote controller is connected to 1 outdoor unit and automatic address setting for the indoor units has not been completed).

* Displays the overall system status for that refrigerant system.

● All units start/stop (Fig. 1)

<Operation>

The button can be used to start and stop all the indoor units.

- The LED turns ON when 1 or more indoor units is operating.
- The LED blinks when an alarm has occurred at 1 or more indoor units during operation.

● Switching between cooling/heating (Fig. 1)

<Operation>

The button switches between heating and cooling modes.

- The specifications are equivalent to the heating/cooling input that was present on earlier outdoor unit PCBs.
- The display shows the operating mode of the indoor unit with the lowest number.

● All units test run (Fig. 2)

<Operation>

The button switches test run ON/OFF for all indoor units.

- Press and hold for 4 seconds to turn ON.
  “Test run” is displayed while the test run is in progress.
- Conditions of test runs that are started from the unit remote controller are not displayed on the outdoor unit maintenance remote controller.

Fig. 1



Fig.2



■ **Display (functions)**

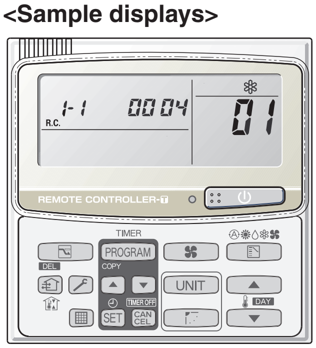
- Use the temperature setting ⏶ and ⏷ buttons to change the item code.

Item code	Display contents	Remarks
00 (1)	Outdoor unit alarm contents (code): OFF when normal Blinking 8-alarm code display at pre-trip, LED (2)	At initial status
01	No. of indoor units connected in that refrigerant system	
02	Unit. Nos. of connected indoor units in that refrigerant system *2	
03	Operating status of indoor units in that refrigerant system (blinks when alarms occur) *2	
04	Unit Nos. of indoor units in that refrigerant system where the thermostats are ON *2	
05	No. of outdoor units connected in that refrigerant system	No. of connected units: 1
06	Unit Nos. of connected outdoor units in that refrigerant system *2	
07	Operating status of outdoor units in that refrigerant system (blinks when alarms occur) *2	
08		
09		
0A		
0b		
0C		
0d		
0E		
0F		
10	Total compressor operating time (in 1-hr. units) *3	
11		
12		
13		
14		
15		
16	Total power ON time of outdoor unit (in 1-hr. units)	
17	Compressor start count	
18		
19		
FE	Outdoor unit microcomputer firmware version	
FF	Outdoor unit microcomputer software version	

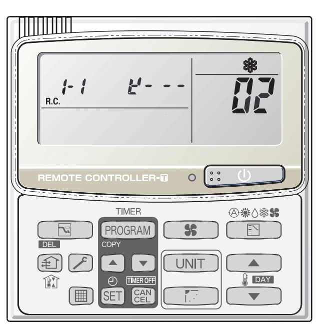
* See following page for *2 and *3.

(3) XX-YY R.C.
Displays the outdoor unit address of the selected outdoor sub-bus.
XX = Main bus line outdoor system address (1 – 30)
YY = Outdoor unit address in outdoor sub-bus (1 – 4). This is “1” when there is only 1 outdoor unit.

<Sample displays>

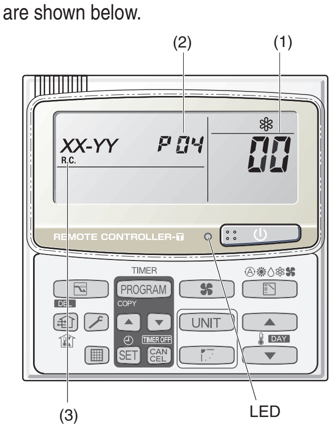


01: <No. of connected indoor units>
4 units connected



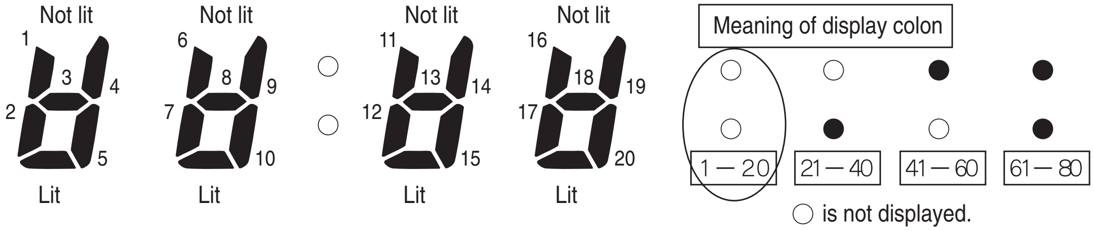
02: <Unit Nos. 1, 2, 3, and 4 are connected>

Locations where (1), (2), and (3) are displayed are shown below.

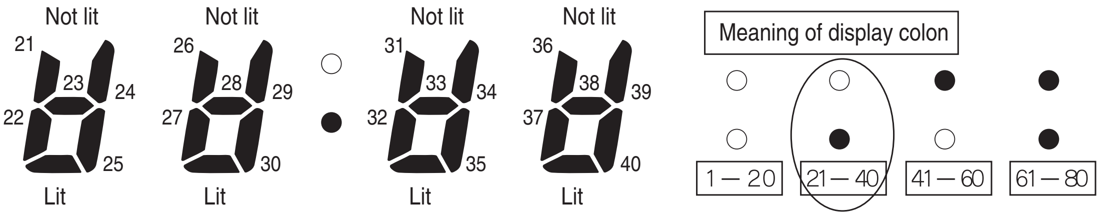


***2:** 7-segment, 4-digit display for remote controller timer display
The connected unit Nos. are displayed as shown below, using the 7-segment 4-digit (88 : 88) display and the colon.

- Display for unit Nos. 1 – 20

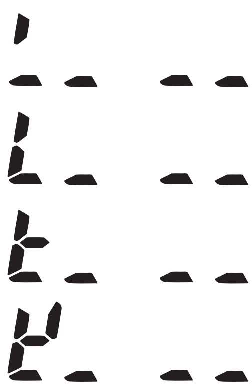


- Display for unit Nos. 21 – 40



- The meaning of the colon display changes in the same way, allowing unit Nos. up to 80 to be displayed.
- Sample displays of the unit Nos. of connected indoor units

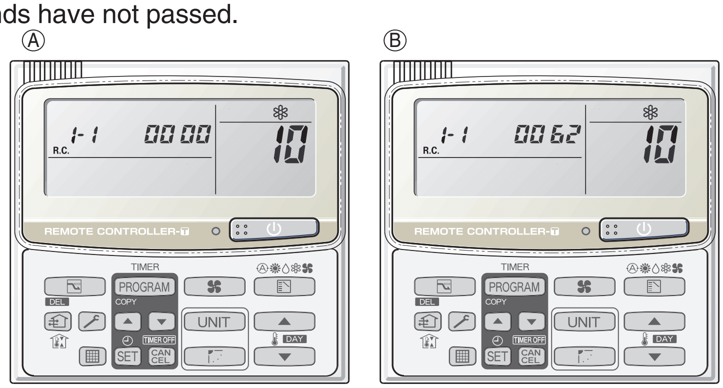
• Display of unit No. 1
• Display of unit Nos. 1 and 2
• Display of unit Nos. 1, 2, and 3
• Display of unit Nos. 1, 2, 3, and 4



NOTE
The colon display changes automatically every 10 seconds.
(The display does not change if higher unit numbers do not exist.)
Pressing the button switches the display immediately to the next higher level, even if 10 seconds have not passed.

***3:** The total compressor operating time is displayed (in 1-hour units) using 8 digits.

- When the first 4 digits are displayed, the top point of the colon is lit.
- When the last 4 digits are displayed, the colon points are not lit.
- The display of the first 4 and last 4 digits changes automatically every 10 seconds. It can also be changed by pressing the button.



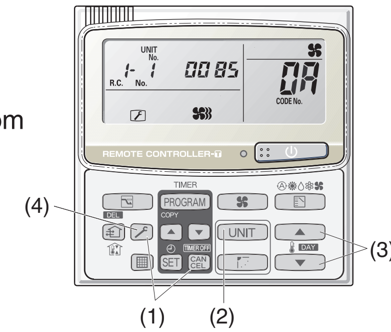
10: <Total compressor operating time> (A) and (B) are displayed alternately.

NOTE
With the outdoor unit maintenance remote controller (when connected to the outdoor unit), the unit remote controller check functions will not operate.

5

5-4. Monitoring Operations: Display of Indoor Unit and Outdoor Unit Sensor Temperatures

<Operating procedure>



(1) Press and hold the button and CL button simultaneously for 4 seconds or longer to switch to temperature monitor mode.
During temperature monitoring, “Service Monitor” is lit.
(The display and operations are the same as when monitor mode is started from the unit remote controller.)

(2) Press UNIT the button and select the indoor unit to monitor.

(3) Use the temperature setting ▲ and ▼ buttons to select the item code of the temperature to monitor.
The selected indoor unit No. and the temperature data are displayed.

(4) To end monitoring, press the button. The display returns to the normal display.

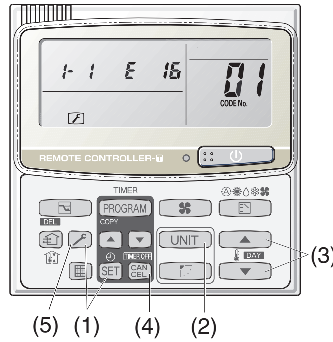
* The display does not blink.

	Item code	Meaning of Code
Indoor unit data	02	Indoor unit intake temp.
	03	Indoor unit heat exchanger temp. (E1)
	04	Indoor unit heat exchanger temp. (E2)
	05	–
	06	Indoor unit discharge temp.
	07	–
	08	–
	09	
Outdoor unit data	0A	Discharge temp. (TD)
	0b	–
	0C	–
	0d	Intake temp. (TS)
	0E	Outdoor unit heat exchanger temp. (C1)
	0F	Outdoor unit heat exchanger temp. (C2)
	10	–
	11	Outdoor air temp. (TO)
	12	–
	13	–
	14	Current value
	15	Outdoor MV value
	19	Frequency

* Depending on the model, some items may not be displayed.

5-5. Monitoring the Outdoor Unit Alarm History: Display of Outdoor Unit Alarm History

* Displays outdoor unit alarms only. Does not display indoor unit alarms.
* Check the indoor unit alarm histories separately using the indoor unit remote controllers or other control device.



<Operating procedure>

(1) Press and hold the button and SET button simultaneously for 4 seconds or longer to change to outdoor unit alarm history mode.
During the alarm history display, “Service Check” is lit.
The display and operations are the same as the monitoring of the alarm device history that is performed using the unit remote controller. However, the outdoor unit address appears instead of the unit No.

↓

(2) Press the UNIT button and select the outdoor unit for alarm history monitoring.

↓

(3) Use the temperature setting ▲ and ▼ buttons to select the item code for the alarm history.
The display shows the address of the selected outdoor unit, the item code, and the alarm history (alarm data).
The outdoor unit address is displayed as system XX-YY.
System XX = Outdoor unit system address

↓

YY = Outdoor unit sub-bus address

The item code is displayed as 01– 08. 01 indicates the most recent alarm.
The alarm history is indicated by the alarm code. (If there have been no alarm codes, “----” is displayed.)

(4) To clear the alarm history, press the CL button. (The outdoor unit alarm history will be cleared.)

↓

(5) To end, press the button. The display returns to the normal remote controller display.

5-6. Setting Modes: Setting the Outdoor Unit EEPROM

● Setting mode 1
<Operating procedure>

(1) Press and hold the button and button simultaneously for 4 seconds or longer.

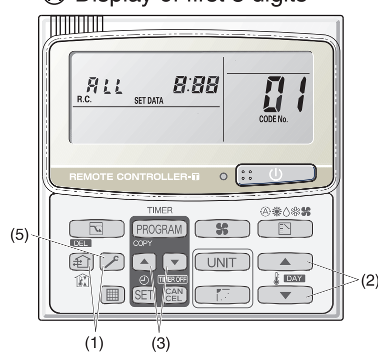
(2) Use the temperature setting ▲ and ▼ buttons to change the item code. The item codes and setting data are shown in the table on the next page.

(3) Use the timer time ▲ and ▼ buttons to change the setting data.
To confirm the changed setting data, press the SET button.
(At this time, “Setting” stops blinking and remains lit.)

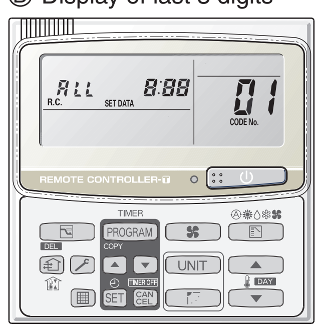
(4) During this mode, “Setting” is displayed, blinking. The outdoor unit address display section displays “ALL,” the item code and number (DN value in the table), and the setting data (6 digits).
(The setting data is displayed in 6 digits. The display changes between the first 3 digits (Fig. Ⓐ) and the last 3 digits (Fig. Ⓑ).
When the first 3 digits are displayed, the top point of the colon is lit.)

(5) To end the setting mode, press the button.

Ⓐ Display of first 3 digits



Ⓑ Display of last 3 digits



Ⓐ and Ⓑ are displayed alternately.
(Example shows display of 000 001.)

5

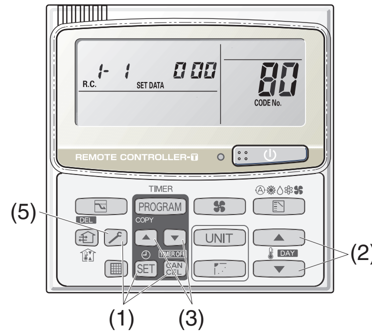
List of Item Codes

Item code		Parameter
01	Control system schedule	Do not set
02	Control system schedule	Do not set
03	Control system schedule	Do not set
04	Snowfall sensor operation	0 = No sensor, control performed 1 = No sensor, control not performed 2 = Sensor present, control performed 3 = Sensor present, control not performed
05	Outdoor fan quiet mode	Do not set
06	Defrost fan speed selection	Do not set
07	Ignore capacity	0 = Disabled 1 = Ignores capacity ratio
08	Control system schedule	Do not set
09	Control system schedule	Do not set
0A	Control system schedule	Do not set
0b	Control system schedule	Do not set
0C	Forced operation of indoor unit drain pump	0 = Disabled 1 = During cooling only, 2 hours stopped + 20 minutes operating (regardless of whether the unit is running or stopped) 2 = During cooling only, 4 hours stopped + 20 minutes operating (regardless of whether the unit is running or stopped) 3 = At all times, 4 hours stopped + 20 minutes operating 4 = At all times, 2 hours stopped + 20 minutes operating
0d	Odor countermeasure when indoor cooling thermostat is OFF	Do not set
0E	Cool only	0 = Heat pump 1 = Cool only
0F	Control system schedule	Do not set
10	Control system schedule	Do not set
11	Multi-floor installation	Do not set
12	External Electronic Expansion Valve Kit	0 = No 1 = Yes
13	Control system schedule	Do not set
4E	Test mode 1	Do not set
4F	Test mode 2	Do not set
50	Demand 1	40%, 45% ... 100% ... 160%
51	Demand 2	40%, 45% ... 100% ... 160%
52	Current control level	40%, 45% ... 100% ... 160%, –1 (normal: at shipment from factory)
53	Control system schedule	Do not set
54	Control system schedule	Do not set
55	Control system schedule	Do not set
56	Control system schedule	Do not set
57	Control system schedule	Do not set
58	Control system schedule	Do not set
59	Control system schedule	Do not set
5A	Control system schedule	Do not set
5B	Control system schedule	Do not set

* Figures in parentheses indicate the data at the time of shipment from the factory.

● Setting mode 2

<Operating procedure>



(1) Press and hold the button, SET button, and CL button simultaneously for 4 seconds or longer.

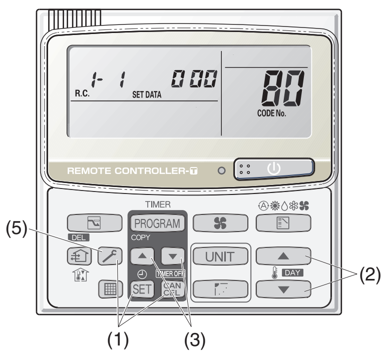
(2) Use the temperature setting ▲ and ▼ buttons to change the item code. The item codes and setting data are shown in the table below.

(3) Use the timer time ▲ and ▼ buttons to change the setting data.
To confirm the changed setting data, press the SET button.
(At this time, “Setting” stops blinking and remains lit.)

(4) During this mode, “Setting” is displayed, blinking. The display shows the set outdoor unit address “System XX-YY” (System XX = System address, YY = Address at outdoor unit sub-bus), item code number (DN value in the table below), and the setting data (6 digits).
(The setting data is displayed in 6 digits. The display changes between the first 3 digits (Fig. Ⓐ) and the last 3 digits (Fig. Ⓑ). When the first 3 digits are displayed, the top point of the colon is lit.)

(5) To end the setting mode, press the button. The display returns to the normal display mode.

Ⓐ Display of first 3 digits



Ⓑ Display of last 3 digits



80: <Refrigerant type> Ⓐ and Ⓑ are displayed alternately. (Example shows 000 410 (R410A).)

5

List of Item Codes

Item code	Parameter	
80	Refrigerant type	407 = R407C 22 = R22 410 = R410A
81	Outdoor unit capacity*	0 = Disabled 80 : 26 type 112 : 36 typ 140 : 42 type
82	Control system schedule	Do not set
83	Control system schedule	Do not set
84	3-phase or single-phase	0 = 3-phase 1 = single-phase
85	Power frequency	Do not set
86	Control system schedule	Do not set
87	Control system schedule	Do not set
88	Control system schedule	Do not set
89	Crank case heater control	0 = No 1 = Yes
8A	Control system schedule	Do not set
8b	Control system schedule	Do not set
8E	Control system schedule	Do not set

(*) Figures represent the capacity data for each model.

6. TEST RUN

6

6. TEST RUN

6-1. Preparing for Test Run

- **Before attempting to start the air conditioner, check the following:**

(1) All loose matter is removed from the cabinet especially steel filings, bits of wire, and clips.

(2) The control wiring is correctly connected and all electrical connections are tight.

(3) The protective spacers for the compressor used for transportation have been removed. If not, remove them now.

(4) The transportation pads for the indoor fan have been removed. If not, remove them now.

(5) The power has been supplied to the unit for at least 5 hours before starting the compressor. The bottom of the compressor should be warm to the touch and the crankcase heater around the feet of the compressor should be hot to the touch. (Fig. 6-1)

(6) Both the gas and liquid tube service valves are open. If not, open them now. (Fig. 6-2)

(7) Request that the customer be present for the trial run.
Explain the contents of the instruction manual, then have the customer actually operate the system.

(8) Be sure to give the instruction manual and warranty certificate to the customer.

(9) When replacing the control PCB, be sure to make all the same settings on the new PCB as were in use before replacement.
The existing EEPROM is not changed, and is connected to the new control PCB.

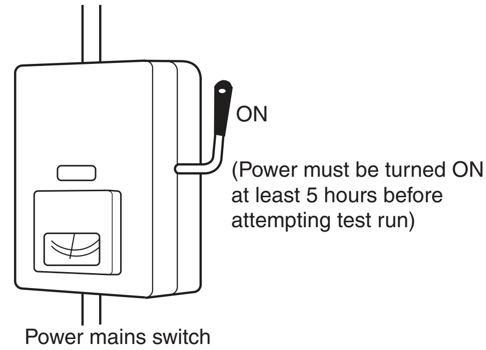


Fig. 6-1

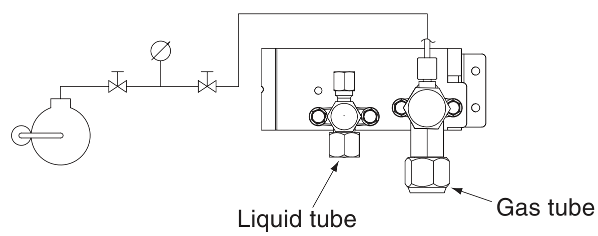


Fig. 6-2

■ U1, K1, T1, F1 Type

6-2. Caution

- This unit may be used in a single-type refrigerant system where 1 outdoor unit is connected to 1 indoor unit.
- The indoor and outdoor unit control PCBs utilize a semiconductor memory element (EEPROM). The settings required for operation were made at the time of shipment.
  Only the correct combination of indoor and outdoor units can be used.
- This test run manual describes primarily the procedure when using the wired remote controller.

6-3. Test Run Procedure

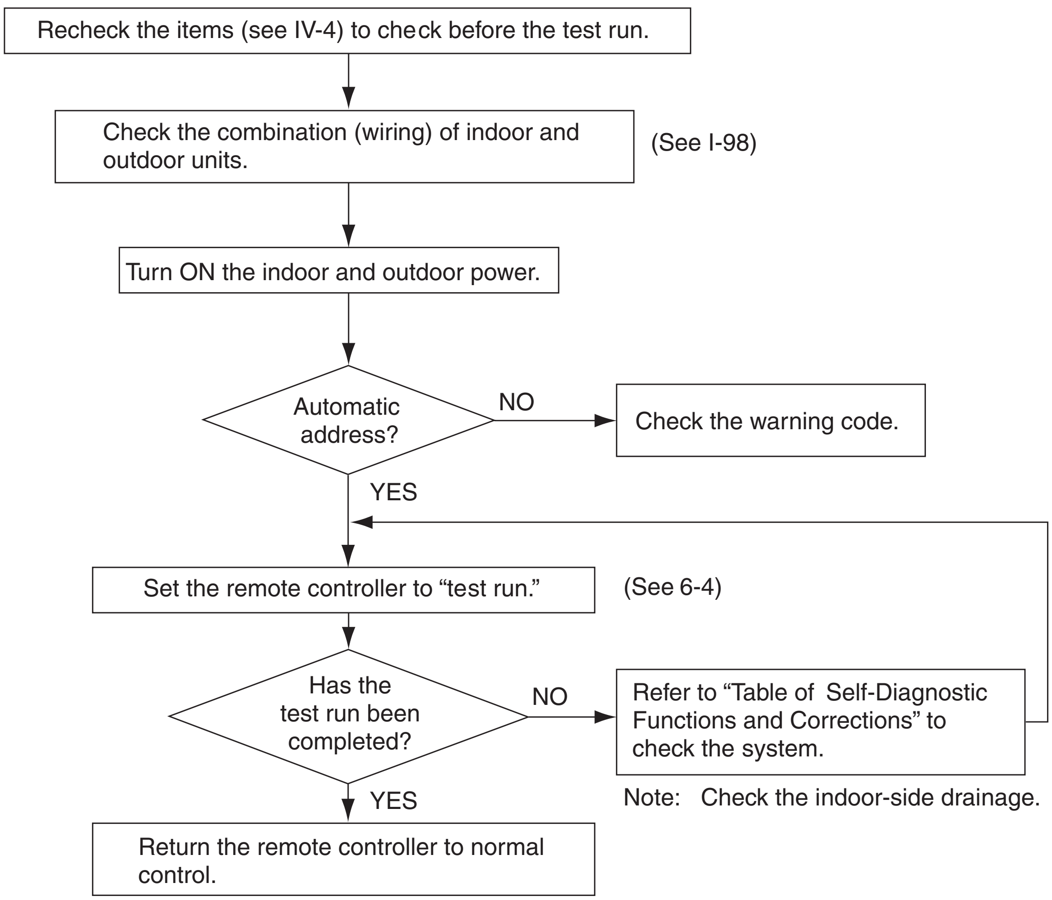


Fig. 6-3

6-4. Items to Check Before the Test Run

(1) Turn the breaker ON at least 12 hours in advance in order to energize the crank case heater.

(2) Fully open the closed valves on the liquid tube and gas tube sides.

6-5. Test Run Using the Remote Controller

(1) Press and hold the remote controller ⌧ button for 4 seconds or longer. Then press the ⏻ button.

- "TEST" appears in the LCD display during the test run.
- Temperature control is not possible when test run mode is engaged.
(This mode places a large load on the devices. Use it only when performing the test run.)

(2) Use either Heating or Cooling mode to perform the test run.

Note: The outdoor unit will not operate for approximately 3 minutes after the power is turned ON or after it stops operating.

(3) If normal operation is not possible, a code appears on the remote controller LCD display.
Refer to the "Table of Self-Diagnostic Functions and Corrections" on the next page, and correct the problem.

(4) After the test run is completed, press the ⌧ button again. Check that "TEST" disappears from the LCD display.
(This remote controller includes a function that cancels test run mode after 60 minutes have elapsed, in order to prevent continuous test run operation.)

(5) For the test run of an inverter outdoor unit, operate the compressors for a minimum of 10 minutes.

* When performing a test run using a wired remote controller, operation is possible without attaching the cassette-type ceiling panel.
("P09" will not be displayed.)



CZ-RTC2

6-6. Precautions

- Request that the customer be present when the test run is performed. At this time, explain the operation manual and have the customer perform the actual steps.
- Be sure to pass the manuals and warranty certificate to the customer.
- Check that the AC 230 / 208 V power is not connected to the inter-unit control wiring connector terminal.

* If AC 230 / 208 V is accidentally applied, the indoor or outdoor unit control PCB fuse (0.5A for both indoor and outdoor units) will blow in order to protect the PCB. Correct the wiring connections, then disconnect the 2P connectors (indoor: blue, OC) (outdoor: blue, OC) that are connected to the PCB, and replace them with 2P connectors (indoor: brown, EMG) (outdoor: brown, EMG). (Refer to the figure below.) If operation is still not possible after changing the brown connectors, try cutting the varistor (VA002) (both indoor and outdoor).
(Be sure to turn the power OFF before performing this work.)

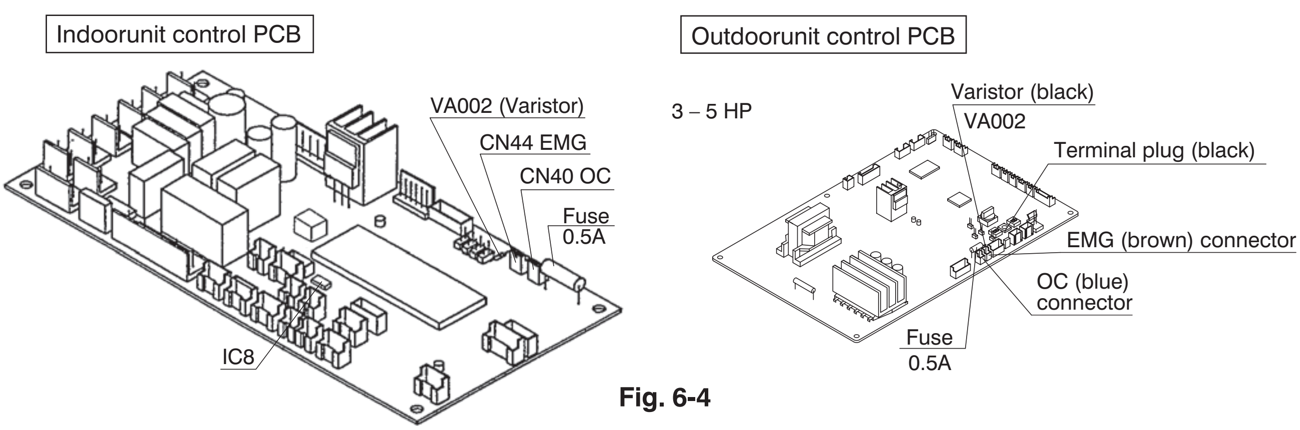


Fig. 6-4

6-7. Table of Self-Diagnostic Functions and Corrections (U1, K1, T1, F1 Type)

Wired remote controller display	Indoor unit receiver lamp	Cause: 1:1 connection (single type)	Cause: Group connection	Cause: Simultaneous-operation multi system (flexible combination)	Cause: Control by main-sub remote controllers	Correction
Nothing is displayed	Nothing is displayed	● Remote controller is not connected correctly. ● Indoor unit power is not ON.	● Remote controller is not connected with indoor unit correctly ● Indoor unit power is not ON.	● Same as at left	● Same as at left	Connect the remote controller correctly. Turn ON the indoor unit power.
E 0 1 displayed	Operating lamp is blinking.	● Automatic address setting has not been completed. ● Inter-unit control wiring is cut or is not connected correctly. ● Remote controller is not connected correctly (remote controller receiving failure).	● Automatic address setting has not been completed. ● Inter-unit control wiring is cut or is not connected correctly. ● Remote controller is not connected with indoor unit correctly	● Same as at left	● Same as at left	Check the remote controller and inter-unit control wiring. Perform automatic address setting.
E 0 2 displayed	Operating lamp is blinking.	● Remote controller is not connected correctly (failure in transmission from remote controller to indoor unit).	● Remote controller is not connected with indoor unit correctly	● Same as at left	● Same as at left	Connect the remote controller correctly.
E 0 9 displayed	Operating lamp is blinking.	———	———	———	● 2 remote controllers are set as the main remote controller.	Refer to 11-8-6 Main-sub remote control, and make the correct settings.
E 1 4 displayed	Operating lamp is blinking.	———	———	● Remote controller crossover wiring is cut or is not connected correctly.	● Same as at left	Check the remote controller crossover wiring. Perform automatic address setting again.
E 0 4 displayed	Standby lamp is blinking.	● Indoor-outdoor inter-unit wiring is not connected correctly.	● Same as at left	● Same as at left	● Same as at left	Connect the wiring correctly.
E 0 6 displayed	Standby lamp is blinking.		● Indoor-outdoor inter-unit wiring is cut or is not connected correctly.	● Same as at left	● Same as at left	Refer to 11-8 System Control, and make the correct settings.
E 1 5 displayed	Standby lamp is blinking.	● Indoor unit capacity is too low.	● Same as at left	● Same as at left	● Same as at left	Check that the total capacities of the indoor and outdoor units are appropriate.
E 1 6 displayed	Standby lamp is blinking.	● Indoor unit capacity is too high.				
E 2 0 displayed	Standby lamp is blinking.	● No serial signal is being received at all from the indoor units.				Check that the indoor unit power is ON, and that the inter-unit control wiring is connected correctly.
P 0 5 displayed	Operation lamp and Standby lamp are blinking alternately.	● Inter-unit circuit or open phase in the outdoor unit power ● Insufficient gas	● Reversed phase or open phase in the 3-phase power at one of the outdoor units in the group	● Reversed phase or open phase in the outdoor unit 3-phase power	● Same as at left	Reverse 2 phases of the outdoor unit 3-phase power and connect them correctly.
L 0 2 displayed **L 1 3** displayed	Both the Operation lamp and Standby lamp are blinking together.	● Indoor-outdoor unit type mismatch	● Same as at left	● Same as at left		Check that the indoor and outdoor unit types are correct.
L 0 7 displayed	Both the Operation lamp and Standby lamp are blinking together.	———	———	● Remote controller crossover wiring is connected to the indoor unit, however it is set for individual operation.	● Same as at left	Perform automatic address setting.
P 0 9 displayed	Timer lamp and Standby lamp are blinking alternately.	● The indoor unit ceiling panel connector is not connected correctly.	● Ceiling panel connector at one of the indoor units in the group is not connected correctly.	● Indoor unit ceiling panel connector is not connected correctly.	● Same as at left	Connect the indoor unit ceiling panel connector correctly.

6-8. Examples of Wiring Diagrams

Basic wiring diagram 1

Single-type system

● Be careful to avoid miswiring when connecting the wires. (Miswiring will damage the units.)

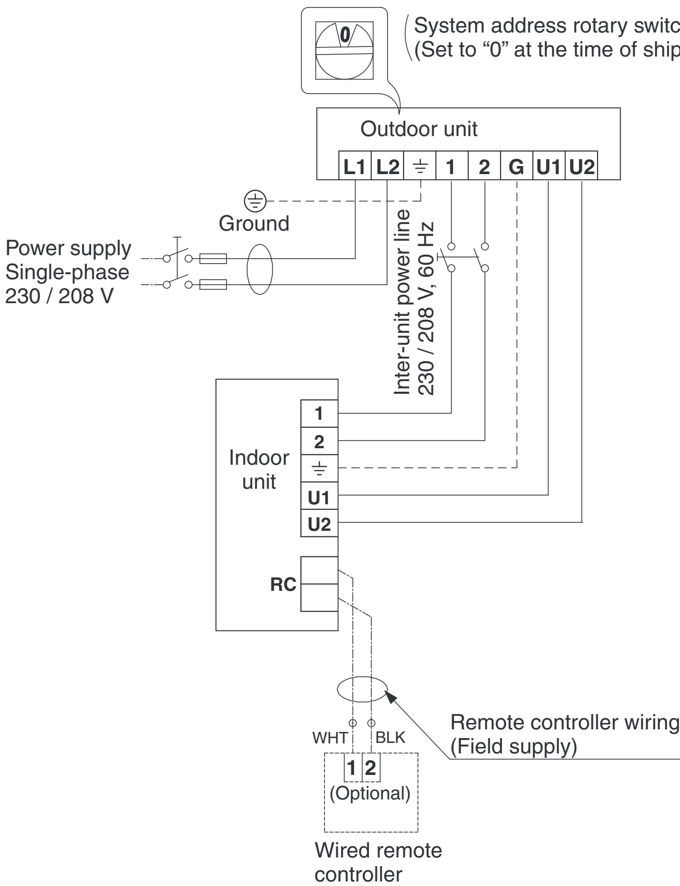


Fig. 6-5

Basic wiring diagram 2

Group control (when a central control device is not used)

- Simultaneous-operation multi system
  A maximum of 8 indoor units can be connected to 1 remote controller.
  Set the system address (refrigerant tubing system address) before turning on the remote power switch.
  (Refer to “Setting the system addresses” on next page.)
  (Set using the system address rotary switch on the outdoor unit control PCB.)

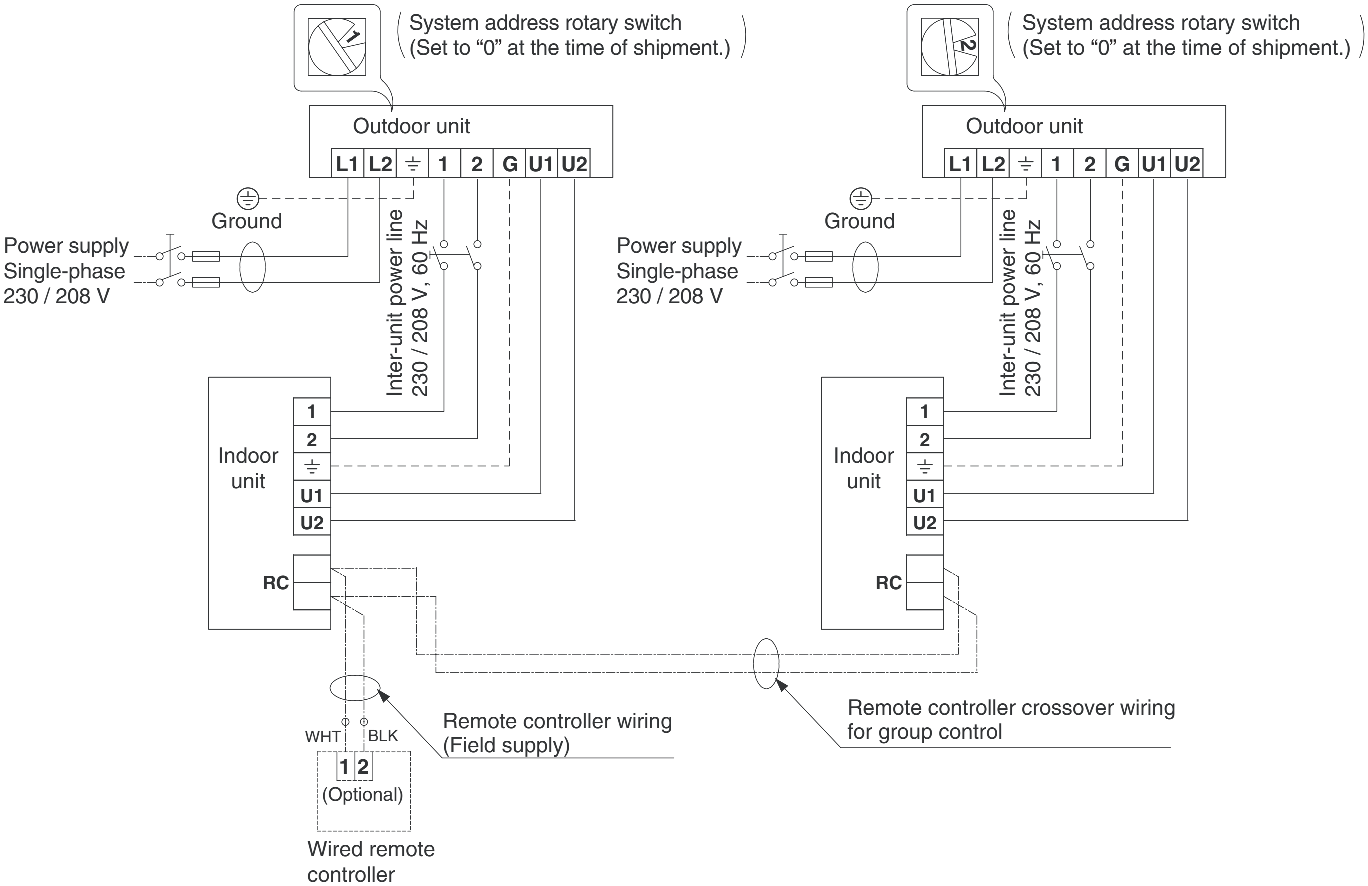


Fig. 6-6a

(Wiring procedure)

(1) Connect the remote controller to the indoor unit remote controller wiring.
Use the remote controller connection wire coming from the indoor unit, and field-supply wire and a wire joint to complete the connection as shown in Fig. 6-6b. The remote controller connection wire coming from the indoor unit includes a connector, therefore cut off the connector and use the wire joint to connect the wire from the remote controller.

(2) Connect the indoor units (U1, U2) and the outdoor units (1, 2).
Connect the other outdoor units and indoor units (with different refrigerant systems) in the same way.
Connect the inter-unit control wiring to the indoor units (U1, U2) for each refrigerant system.
(Inter-unit control wiring)

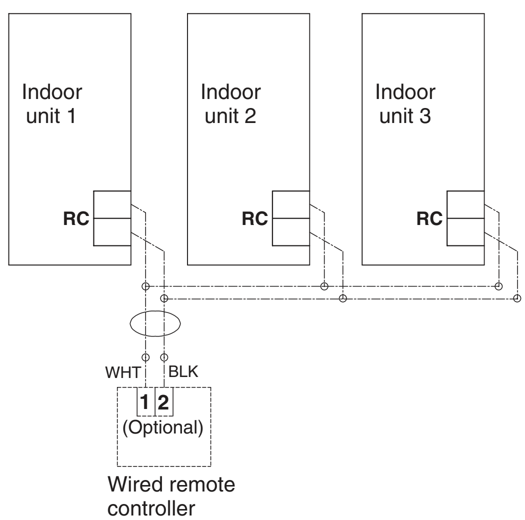


Fig. 6-6b

6

Setting the outdoor unit system addresses

For basic wiring diagram 2 (Set the system addresses: 1, 2, 3...)

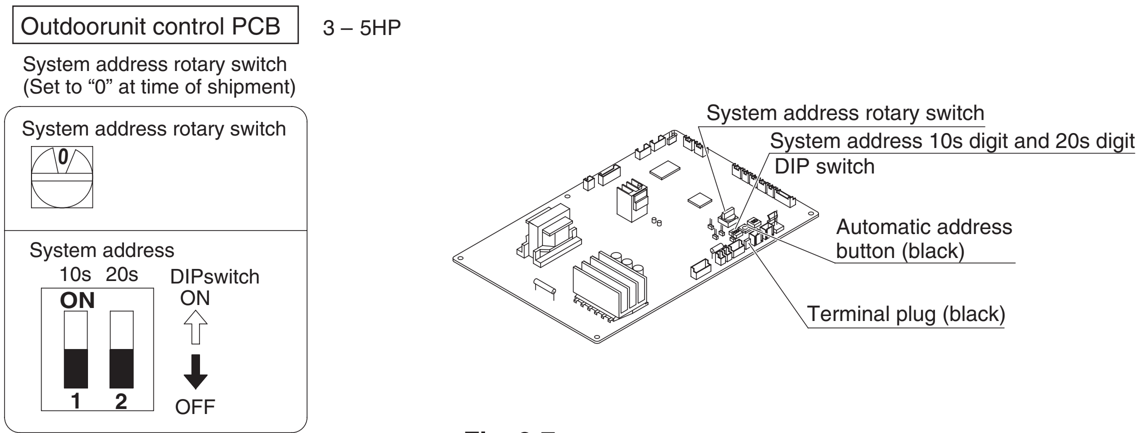


Fig. 6-7

System address No.	System address 10s digit (2P DIP switch)	System address 1s place (Rotary switch)
0 Automatic address (Setting at shipment = “0”)	Both OFF	“0” setting
1 (If outdoor unit is No. 1)	Both OFF	“1” setting
2 (If outdoor unit is No. 2)	Both OFF	“2” setting
11 (If outdoor unit is No. 11)	10s digit ON	“1” setting
21 (If outdoor unit is No. 21)	20s digit ON	“1” setting
30 (If outdoor unit is No. 30)	10s digit and 20s digit ON	“0” setting

Automatic address setting using the remote controller

When the outdoor unit shown in “Basic wiring diagram 2” is used for group control of multiple outdoor units , use the remote controller to perform automatic address setting. (During automatic address setting, “SETTING” blinks on the remote controller display.)

- Press the remote controller timer time ▲ button and ✎ button simultaneously. (Hold for 4 seconds or longer.) Then press the SET button. (Item code “AA” appears: All systems automatic address setting.) (Automatic address setting is performed in sequence for all outdoor units from No. 1 to No. 30. When automatic address setting is completed, the units return to normal stopped status.)
- To select each refrigerant system individually and perform automatic address setting, press the remote controller timer time ▲ button and ✎ button simultaneously. (Hold for 4 seconds or longer.) Then press either the temperature setting ▲ or ▼ button. (Item code “A1” appears: Individual system automatic address setting) Use either the UNIT or ⌈⌈ button to select the outdoor unit to perform automatic address setting. (For example, when selected R.C.1 “R.C.1” is displayed.) Then press the SET button. (Automatic address setting is performed for refrigerant circuit 1.) When automatic address setting for circuit 1 is completed, the system returns to normal stopped status. When automatic address setting for circuit 1 is completed, the system returns to normal stopped status. In the same way, press the remote controller timer time ▲ button and ✎ button simultaneously to perform automatic address setting for a different R.C. (refrigerant circuit) if necessary. Then in the same way as above (use the UNIT button to display “R.C.2,” for example), select the next circuit and perform automatic address setting.

Indicating (marking) the indoor and outdoor unit combination number

Indicate (mark) the number after automatic address setting is completed.

(1) So that the combination of each indoor unit can be easily checked when multiple units are installed, ensure that the indoor and outdoor unit numbers correspond to the system address number on the outdoor unit control PCB, and use a magic marker or similar means which cannot be easily erased to indicate the numbers in an easily visible location on the indoor units (near the indoor unit nameplates).
Example: (Outdoor) 1 - (Indoor) 1-1...(Outdoor) 2 - (Indoor) 2-2...

(2) These numbers will be needed for maintenance. Be sure to indicate them.

* Use the remote controller to check the addresses of the indoor units. Press and hold the button and button for 4 seconds or longer (simple settings mode). Then press the button UNIT and select the indoor address. (Each time the button is pressed, the address changes as follows: 1-1, 2-1, ...) The indoor unit fan operates only at the selected indoor unit. Confirm that correct fan is operating, and indicate address on the indoor unit.

Press the button again to return to the normal remote controller mode.

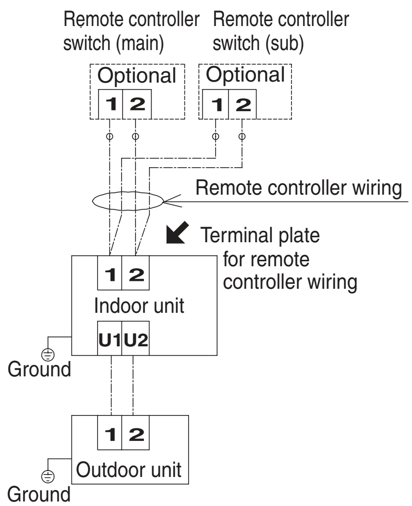
For details, refer to the separate handbook.

Main-sub remote controller control

Control using 2 remote controller switches

Main-sub remote controller control refers to the use of 2 remote controllers to control 1 indoor unit.
(A maximum of 2 remote controllers can be connected.)

● **Connecting 2 remote controllers to control 1 indoor unit**



■ **Remote controller setting mode**

To set the remote controller main/sub setting or change the sensor, follow the steps below.

① Press both and SET buttons on the remote controller for more than 4 seconds together.

② Select CODE No. with ▲ / ▼ ( ) buttons.

③ Change DATA with ▲/▼ (TIMER) buttons.

④ Press SET. Finally, press .

* DATA is memorized in the RCU. (DATA setting will not be changed even when the power is turned off.)

* Make sure to set [Normal] for RCU. CK.

CODE	ITEM	DATA	
		0000	0001
01	RCU. Main/Sub	Sub	Main
02	Clock display	24 hours	12 hours (AM/PM)
08	RCU. CK	RCU. CK	Normal
0A	Room temperature sensor	Main unit	RCU

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